



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

Precision Instrument Correction, Inc.

933 Mariner Street, Brea, CA 92821

*(Hereinafter called the Organization) and hereby declares that Organization is accredited
in accordance with the recognized International Standard:*

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the
operation of a laboratory quality management system
(as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

***Chemical, Dimensional, Electrical, Mechanical, Thermodynamic, Time &
Frequency, Mass, Force & Weighing Devices Calibration***
(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President/Operations Manager

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325

Initial Accreditation Date:	Issue Date:	Expiration Date:
January 16, 2003	October 17, 2019	November 30, 2021
Accreditation No.:	Certificate No.:	
59282	L19-528	

*The validity of this certificate is maintained through ongoing assessments based on a
continuous accreditation cycle. The validity of this certificate should be
confirmed through the PJLA website: www.pjllabs.com*



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
pH Meters ^F	4, 7, 10 pH	0.01 pH	Certified pH Reference Solutions Traceable through NIST PIC-PH001
Conductivity Meters ^F	84 μ S/cm	0.12 μ S/cm	Certified Conductivity Reference Solutions Traceable through NIST PIC-PH001
	1 413 μ S/cm	5 μ S/cm	
	12 880 μ S/cm	0.13 μ S/cm	

Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Gage Block ^F	0.01 in to 4 in	(4.6 + 1.2L) μ in	Grade 0 reference Gage Block Gage Block Comparator ASME B89
External Micrometers ^{FO}	up to 6 in	(4.5 + 1.2L) μ in	Gage Blocks NA 17-20 MD-06, PIC QI 10-05
	6.000 1 in to 12 in	(12 + 2.7L) μ in	
	12.000 1 in to 18 in	(22 + 1.3L) μ in	
	18.000 1 in to 24 in	(28 + 0.3L) μ in	
	24.000 1 in to 30 in	(21 + 2.7L) μ in	
	30.000 1 in to 36 in	(38 + 0.2L) μ in	
	36.000 1 in to 42 in	(33 + 0.2L) μ in	
	42.000 1 in to 48 in	(32 + 0.2L) μ in	
	48.000 1 in to 60 in	(31 + 0.2L) μ in	
Micrometers Inside ^{FO}	up to 6 in	(4.9 + 1.2L) μ in	Grade 0 reference Gage Block LVDT with Amplifier ASME B89
	up to 12 in	(5.8 + 1.2L) μ in	
	12.000 1 in to 57 in	(19 + 2.8L) μ in	
	57.000 1 in to 82 in	210 μ in	
Micrometers Depth ^{FO}	up to 6 in	(4.5 + 1.2L) μ in	
	6.0001 in to 12 in	(12 + 2.7L) μ in	
	12.000 1 in to 18 in	(27 + 1.2L) μ in	
	18.0001 in to 24 in	(28 + 0.3L) μ in	
Length Bars/End Standard ^F	up to 6 in	(4.5 + 1.2L) μ in	
	6.000 1 to 12 in.	(19 + 1.7L) μ in	
	12.000 1 to 18 in	(19 + 1.5L) μ in	
	18.000 1 to 24 in	(28 + 0.9L) μ in	
	24.000 1 to 36 in	(28 + 0.7L) μ in	
	36.000 1 to 48 in	(28 + 0.5L) μ in	
	48.000 1 to 60 in	(44 + 0.2L) μ in	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Cylindrical Plug Gages ^F	0.005 in to 10 in	(2.9 + 5.5D) μ in	Grade 0 reference Gage Block Master Comparator GIDEP
Cylindrical Ring Gages ^F	0.062 5 in to 10 in	(2.9 + 5.5D) μ in	
Thread Plug Major Pitch Diameter ^F	0.05 in to 4 in	(10 + 11D) μ in	Grade 0 reference Gage Block Super Micrometer Master Wires ANSI/ASME B1.16, B1.2, H28 Hdbk, GIDEP
	4 in to 10 in	(94 + 16D) μ in	
	0.05 in to 4 in	(34 + 4.5D) μ in	
	4 in to 10 in	(118 + 11D) μ in	
Thread Ring Gages ^F	0.05 in to 4 in	(38 + 3.5D) μ in	Grade 0 reference Gage Block Super Micrometer Set Thread Plug Gages ANSI/ASME B1.2, H28 Hdbk, GIDEP
	4 in to 10 in	(118 + 13D) μ in	
Digital Indicators//Bore gages with Removable Indicator ^{FO}	0.05 in to 4 in	(4.5 + 1.2L) μ in	Grade 0 Gage Blocks Indicator Calibrator PIC QI 10-04
Dial Indicators/Bore gages with Removable Indicator ^{FO}	0.05 in to 4 in	(4.5 + 1.2L) μ in	Grade 0 Gage Blocks Indicator Calibrator PIC QI 10-04
Test Indicators ^{FO}	0.005 to 0.06 in	(4.5 + 1.2L) μ in	Calibration Tester Grade 0 Gage Blocks PIC QI 10-04
Height Gages ^{FO}	up to 12 in.	(12 + 9.2L) μ in	Grade 0 reference Gage Block, Flatness Table PG-E MPI-MA24
	12.000 1 to 18 in	(15 + 6.1L) μ in	
	18.000 1 to 24 in	(24 + 4.7L) μ in	
	24.000 1 to 36 in	(26 + 3.1L) μ in	
	36.000 1 to 48 in	(26 + 2.4L) μ in	
	48.000 1 to 60 in	(42 + 1.8L) μ in	
Heights Masters ^F	up to 12 in	(13 + 9.4L) μ in	Gage Block NA 17-20MD-26
	up to 18 in	(17 + 6.2L) μ in	
	up to 24 in	(27 + 4.9L) μ in	
Parallel ^F	4 in to 48 in	(6.8 + 1.8L) μ in	LVDT with Amplifier PIC-SQ001
Angle Blocks ^F	up to 90 °	0.002 °	Square and Angle Blocks LVDT with Amplifier Flatness Table NA 17-20MD-78
Protractors ^{FO}	up to 90 °	0.002 °	Angle Blocks TO 33K6-4-148-1



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Angle Plates/Square ^F	90° to 18 inches	140 μ in	Square and Angle Blocks LVDT with Amplifier Flatness Table NA 17-20MD-78
Optical Comparator ^{FO} X and Y Stage Movement	0.5 in to 12 in	(140 + 32L) μ in	Gage Blocks Glass Scale PIC-100
Optical Comparator Angularity ^{FO}	up to 360 °	0.002 °	Angle Blocks PIC-100
Optical Comparator Squareness of Y axis to X axis ^{FO}	(12 in of Y axis travel or maximum Y axis travel if maximum is less than 12 in)	0.002 °	Gage Block Parallel/Angle Blocks PIC-100
Optical Comparator Magnification ^{FO}	10X	0.017 %	Gage Blocks Glass Scale PIC-100
	20X		
	31.25X		
	50X		
	62.5X		
	100X		
Calipers ^{FO}	up to 6 in	(4.5 + 1.2L) μ in	Gage Blocks PIC QI 10-03, NA 17-20MD-07 Gage Blocks
	6.000 5 in to 12 in.	(19 + 1.7L) μ in	
	12.000 5 in to 18 in	(19 + 1.5L) μ in	
	18.000 5 in to 24 in	(28 + 0.9L) μ in	
	24.000 5 in to 36 in	(28 + 0.7L) μ in	
	36.000 5 in to 48 in	(31 + 0.6L) μ in	
	48.000 5 in to 60 in	(44 + 0.2L) μ in	
	60.000 5 in to 72 in	(34 + 0.3L) μ in	
Surface Plates Flatness ^{FO}	12 in to 114 in	24 μ in	Auto Collimator GGG-P-463c
Surface Plates Repeat Readings ^{FO}	0.002 in	67 μ in	Repeat O Meter W/indicator GGG-P-463c
Glass Scale/Stage Micrometer ^F	up to 6 in	94 μ in	Video Measuring System P119, PIC QI 10-06
Radius Length ^F	up to 6 in	94 μ in	
ID/OD Measurement ^F	up to 6 in	94 μ in	
Bore Gages/Intramics ^{FO}	0.15 in to 0.825 in	(21 + 2.7D) μ in	Supermicrometer, Gage Block, Cylindrical Rings NA 17-20MD142
	0.826 in to 1.51 in	(23 + 14D) μ in	
	1.511 in to 2.51 in	(24 + 19D) μ in	
	2.511 in to 4.51 in	(28 + 13D) μ in	
	4.511 in to 6.51 in	(120 + 25D) μ in	
	6.51 in to 7 in	(140 + 24D) μ in	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure DC Current ^{FO}	Up to 220 μ A	6.3 μ A/A + 8.7 nA	Fluke 5700A GIDEP
	220 μ A to 2.2 mA	49 μ A/A + 2.2 nA	
	2.2 mA to 22 mA	62 μ A/A + 3.9 nA	
	22 mA to 220 mA	23 μ A/A + 340 nA	
	220 mA to 2.2 A	90 μ A/A + 690 nA	
	1.1 A to 2.999 99 A	610 μ A/A + 630 μ A	Fluke 5502A GIDEP
(20 A Range) ^{FO}	3 A to 10.999 9 A	630 μ A/A + 210 μ A	
(20 A Range)	11 A to 20.5 A	2.4 mA/A + 25 mA	
Equipment to Measure DC Current for Clamp Ammeters ^{FO}	20 A to 149.9 A	0.33 % + 0.43 A	Fluke 5502A/3 with 5500A Coil GIDEP
	150 A to 1 050 A	0.40 % + 0.43 A	
Equipment to Output DC Current ^{FO}	Up to 100 μ A	11 μ A/A + 1.5 nA	HP 3458A GIDEP
	100 μ A to 1 mA	3.2 μ A/A + 2.1 nA	
	1 mA to 10 mA	30 μ A/A + 4 nA	
	10 mA to 100 mA	21 μ A/A + 90 nA	
	100 mA to 1 A	57 μ A/A + 6.3 μ A	
	1 A to 50 A	0.5 % + 0.03 A	HP 3458A with shunt GIDEP
	1 A to 100 A	0.71 % + 0.04 A	
	1 A to 500 A	0.29 %	
Equipment to Measure DC Voltage ^{FO}	Up to 220 mV	7.6 μ V/V + 0.54 μ V	Fluke 5700A GIDEP
	220 mV to 2.2 V	2.4 μ V/V + 0.7 μ V	
	2.2 V to 11 V	2.1 μ V/V + 0.7 μ V	
	11 V to 22 V	2.2 μ V/V + 3 μ V	
	22 V to 220 V	2.1 μ V/V + 3.8 μ V	
	220 V to 1 100 V	3.1 μ V/V + 500 μ V	
Equipment to Output DC Voltage ^{FO}	Up to 100 mV	12 μ V/V + 0.3 μ V	HP 3458A GIDEP
	100 mV to 1 V	4.2 μ V/V + 1.1 μ V	
	1 V to 10 V	3.6 μ V/V + 2 μ V	
	10 V to 100 V	6.9 μ V/V + 3.1 μ V	
	100 V to 1 000 V	6.5 μ V/V + 10 μ V	
	100 V to 10 000 V	470 μ V/V + 35 μ V	Vitretek 4700



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			Fluke 5700A GIDEP
10 Hz to 20 Hz	Up to 22 mV	67 µV/V + 1.2 µV	
20 Hz to 40 Hz	Up to 22 mV	28 µV/V + 7.4 µV	
40 Hz to 20 kHz	Up to 22 mV	340 µV/V + 1.4 µV	
20 kHz to 50 kHz	Up to 22 mV	350 µV/V + 0.3 µV	
50 kHz to 100 kHz	Up to 22 mV	220 µV/V + 1.9 µV	
100 kHz to 300 kHz	Up to 22 mV	1.5 mV/V + 2.8 µV	
300 kHz to 500 kHz	Up to 22 mV	3.9 mV/V + 4.2 µV	
500 kHz to 1 MHz	Up to 22 mV	4.8 mV/V + 13 µV	
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			
10 Hz to 20 Hz	22 mV to 220 mV	56 µV/V + 8.9 µV	
20 Hz to 40 Hz	22 mV to 220 mV	14 µV/V + 2.2 µV	
40 Hz to 20 kHz	22 mV to 220 mV	16 µV/V + 980 nV	
20 kHz to 50 kHz	22 mV to 220 mV	41 µV/V + 5.9 µV	
50 kHz to 100 kHz	22 mV to 220 mV	180 µV/V + 7.4 µV	
100 kHz to 300 kHz	22 mV to 220 mV	690 µV/V + 7.5 µV	
300 kHz to 500 kHz	22 mV to 220 mV	962 µµV/V + 8.8 µV	
500 kHz to 1 MHz	22 mV to 220 mV	2.3 mV/V + 33 µV	
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			
10 Hz to 20 Hz	220 mV to 2.2 V	110 µV/V + 78 µV	
20 Hz to 40 Hz	220 mV to 2.2 V	56 µV/V + 38 µV	
40 Hz to 20 kHz	220 mV to 2.2 V	36 µV/V + 1.6 µV	
20 kHz to 50 kHz	220 mV to 2.2 V	40 µV/V + 0.2 µV	
50 kHz to 100 kHz	220 mV to 2.2 V	28 µV/V + 14 µV	
100 kHz to 300 kHz	220 mV to 2.2 V	120 µV/V + 23 µV	
300 kHz to 500 kHz	220 mV to 2.2 V	210 µV/V + 88 µV	
500 kHz to 1 MHz	220 mV to 2.2 V	2.8 mV/V + 350 µV	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			Fluke 5700A GIDEP
10 Hz to 20 Hz	2.2 V to 22 V	110 μ V/V + 980 μ V	
20 Hz to 40 Hz	2.2 V to 22 V	56 μ V/V + 190 μ V	
40 Hz to 20 kHz	2.2 V to 22 V	37 μ V/V + 46 μ V	
20 kHz to 50 kHz	2.2 V to 22 V	32 μ V/V + 8 μ V	
50 kHz to 100 kHz	2.2 V to 22 V	36 μ V/V + 8 μ V	
100 kHz to 300 kHz	2.2 V to 22 V	310 μ V/V + 400 μ V	
300 kHz to 500 kHz	2.2 V to 22 V	600 μ V/V + 930 μ V	
500 kHz to 1 MHz	2.2 V to 22 V	1.8 mV/V + 3.1 mV	
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			Fluke 5700A GIDEP
10 Hz to 20 Hz	22 V to 220 V	200 μ V/V + 1.3 mV	
20 Hz to 40 Hz	22 V to 220 V	94 μ V/V + 1.2 mV	
40 Hz to 20 kHz	22 V to 220 V	71 μ V/V + 120 μ V	
20 kHz to 50 kHz	22 V to 220 V	100 μ V/V + 1.2 mV	
50 kHz to 100 kHz	22 V to 220 V	100 μ V/V + 1.4 mV	
100 kHz to 300 kHz	22 V to 220 V	2.3 mV/V + 45 mV	
300 kHz to 500 kHz	22 V to 220 V	6.1 mV/V + 120 mV	
500 kHz to 1 MHz	22 V to 220 V	16 mV/V + 310 mV	
Equipment to Measure AC Voltage at the listed frequencies ^{FO}			HP 3458A GIDEP
50 Hz to 1 kHz	220 V to 1100 V	38 μ V/V + 5 mV	
Equipment to Output AC Voltage at the listed frequencies ^{FO}			HP 3458A GIDEP
20 Hz to 1 kHz	Up to 100 mV	170 μ V/V + 4.3 μ V	
1 kHz to 20 kHz	Up to 100 mV	91 μ V/V + 5.9 μ V	
20 kHz to 100 kHz	Up to 100 mV	320 μ V/V + 70 μ V	
100 kHz to 300 kHz	Up to 100 mV	3.7 mV/V + 0.6 mV	
300 kHz to 1 MHz	Up to 100 mV	3.8 mV/V + 0.6 mV	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Output AC Voltage at the listed frequencies ^{FO}			HP 3458A GIDEP
20 Hz to 1 kHz	100 mV to 1 V	19 µV/V + 22 µV	
1 kHz to 20 kHz	100 mV to 1 V	52 µV/V + 14 µV	
20 kHz to 50 kHz	100 mV to 1 V	150 µV/V + 31 µV	
50 kHz to 100 kHz	100 mV to 1 V	500 µV/V + 4 µV	
100 kHz to 300 kHz	100 mV to 1 V	3.2 mV/V + 30 µV	
300 kHz to 1 MHz	100 mV to 1 V	15 mV/V + 1.3 mV	
Equipment to Output AC Voltage at the listed frequencies ^{FO}			
20 Hz to 1 kHz	1 V to 10 V	12 µV/V + 32 µV	
1 kHz to 20 kHz	1 V to 10 V	72 µV/V + 6 µV	
20 kHz to 50 kHz	1 V to 10 V	150 µV/V + 30 µV	
50 kHz to 100 kHz	1 V to 10 V	140 µV/V + 340 µV	
100 kHz to 500 kHz	1 V to 10 V	2.2 mV/V + 5.4 mV	
500 kHz to 1 MHz	1 V to 10 V	24 mV/V + 10 mV	
1 MHz to 2 MHz	1 V to 10 V	12 mV/V + 56 mV	
Equipment to Output AC Voltage at the listed frequencies ^{FO}			
20 Hz to 1 kHz	10 V to 100 V	79 µV/V + 220 µV	
1 kHz to 20 kHz	10 V to 100 V	99 µV/V + 280 µV	
20 kHz to 50 kHz	10 V to 100 V	110 µV/V + 400 µV	
50 kHz to 100 kHz	10 V to 100 V	71 µV/V + 5.3 mV	
Equipment to Output AC Voltage at the listed frequencies ^{FO}			
60 Hz to 1 kHz	100 V to 1 000 V	570 µV/V + 49 mV	
50 Hz to 60 Hz	100 V to 10 000 V	0.41 V/V + 0.85 mV	
Equipment to Measure AC Current for Clamp Ammeters at the listed frequencies ^{FO}			Fluke 5502A/3 with 5500A Coil GIDEP
50 Hz to 400 Hz	20 A to 149.9 A	0.57 % + 0.86 A	
50 Hz to 400 Hz	150 A to 1 050 A	0.61 % + 0.81 A	
Equipment to Measure AC Current at the listed frequencies ^{FO}			Fluke 5700A GIDEP
10 Hz to 20 Hz	Up to 220 µA	120 µA/A + 1.2 nA	
20 Hz to 40 Hz	Up to 220 µA	10 µA/A + 1.2 nA	
40 Hz to 1 kHz	Up to 220 µA	10 µA/A + 1.2 nA	
1 kHz to 5 kHz	Up to 220 µA	160 µA/A + 2 nA	
5 kHz to 10 kHz	Up to 220 µA	230 µA/A + 1.9 nA	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure AC Current at the listed frequencies ^{FO}			Fluke 5700A GIDEP
10 Hz to 20 Hz	220 µA to 2.2 mA	540 µA/A + 1.3 µA	
20 Hz to 40 Hz	220 µA to 2.2 mA	610 µA/A + 1.3 µA	
40 Hz to 1 kHz	220 µA to 2.2 mA	590 µA/A + 1.3 µA	
1 kHz to 5 kHz	220 µA to 2.2 mA	570 µA/A + 1.3 µA	
5 kHz to 10 kHz	220 µA to 2.2 mA	320 µA/A + 1.3 µA	
Equipment to Measure AC Current at the listed frequencies ^{FO}			Fluke 5700A GIDEP
10 Hz to 20 Hz	2.2 mA to 22 mA	50 µA/A + 0.9 µA	
20 Hz to 40 Hz	2.2 mA to 22 mA	46 µA/A + 0.28 µA	
40 Hz to 1 kHz	2.2 mA to 22 mA	61 µA/A + 22 nA	
1 kHz to 5 kHz	2.2 mA to 22 mA	250 µA/A + 0.38 µA	
5 kHz to 10 kHz	2.2 mA to 22 mA	1.2 mA/A + 2.2 µA	
Equipment to Measure AC Current at the listed frequencies ^{FO}			
10 Hz to 20 Hz	22 mA to 220 mA	86 µA/A + 7.9 µA	
20 Hz to 40 Hz	22 mA to 220 mA	22 µA/A + 960 µA	
40 Hz to 1 kHz	22 mA to 220 mA	32 µA/A + 130 µA	
1 kHz to 5 kHz	22 mA to 220 mA	350 µA/A + 6.3 µA	
5 kHz to 10 kHz	22 mA to 220 mA	1.3 mA/A + 22 µA	
Equipment to Measure AC Current at the listed frequencies ^{FO}			
20 Hz to 1 kHz	220 mA to 2.2 A	22 µA/A + 120 µA	
1 kHz to 5 kHz	220 mA to 2.2 A	570 µA/A + 1.3 µA	
5 kHz to 10 kHz	220 mA to 2.2 A	1.4 mA/A + 0.16 mA	
Equipment to Measure AC Current at the listed frequencies ^{FO}			Fluke 5502A GIDEP
10 Hz to 45 Hz	1.1 A to 2.999 99 A	2 mA/A + 1.2 mA	
45 Hz to 1 kHz	1.1 A to 2.999 99 A	650 µA/A + 250 µA	
1 kHz to 5 kHz	1.1 A to 2.999 99 A	8.3 mA/A + 8.9 mA	
5 kHz to 10 kHz	1.1 A to 2.999 99 A	35 mA/A + 37 mA	
Equipment to Measure AC Current at the listed frequencies ^{FO}			
45 Hz to 100 Hz	3 A to 10.999 9 A	950 µA/A + 1.6 mA	
100 Hz to 1 kHz	3 A to 10.999 9 A	1.5 mA/A + 3.4 mA	
1 kHz to 5 kHz	3 A to 10.999 9 A	49 mA/A + 150 mA	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure AC Current at the listed frequencies ^{FO}			Fluke 5502A GIDEP
45 Hz to 100 Hz	11 A to 20.5 A	3.1 mA/A + 31 mA	
100 Hz to 1 kHz	11 A to 20.5 A	3.6 mA/A + 36 mA	
1 kHz to 5 kHz	11 A to 20.5 A	49 mA/A + 390 mA	
Equipment to Output AC Current at the listed frequencies ^{FO}			HP 3458A GIDEP
20 Hz to 1 kHz	Up to 100 μ A	110 μ A/A + 43 nA	
Equipment to Output AC Current at the listed frequencies ^{FO}			
20 Hz to 1 kHz	100 μ A to 1 mA	22 μ A/A + 120 nA	
Equipment to Output AC Current at the listed frequencies ^{FO}			
20 Hz to 1 kHz	1 mA to 10 mA	160 μ A/A + 20 nA	
Equipment to Output AC Current at the listed frequencies ^{FO}			
20 Hz to 1 kHz	10 mA to 100 mA	170 μ A/A + 100 nA	
Equipment to Output AC Current at the listed frequencies ^{FO}			
20 Hz to 1 kHz	100 mA to 1 A	260 μ A/A + 6 μ A	
Equipment to Measure Resistance Fix Point 4-Wire ^{FO}	0.1 Ω	0.032 % of Reading	Fluke 5700A HP 3458A GIDEP
	1 Ω	0.045 % of Reading	
	10 Ω	0.32 % of Reading	
	100 Ω	3.2 % of Reading	
	1 k Ω	0.045 % of Reading	
	10 k Ω	0.32 % of Reading	
	100 k Ω	3.2 % of Reading	
	1 M Ω	0.05 % of Reading	
	10 M Ω	0.022 % of Reading	
Equipment to Measure Resistance Fix Point ^{FO}	0 Ω	60 $\mu\Omega$	Fluke 5700A GIDEP
	1 Ω	67 $\mu\Omega$	
	1.9 Ω	160 $\mu\Omega$	
	10 Ω	140 $\mu\Omega$	
	19 Ω	280 $\mu\Omega$	
	100 Ω	730 $\mu\Omega$	
	190 Ω	560 $\mu\Omega$	
	1 k Ω	30 m Ω	
	1.9 k Ω	8.8 m Ω	
10 k Ω	42 m Ω		



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure Resistance Fix Point ^{FO}	19 k Ω	42 m Ω	Fluke 5700A GIDEP
	100 k Ω	280 m Ω	
	190 k Ω	810 m Ω	
	1 M Ω	4.7 Ω	
	10 M Ω	10 Ω	
	19 M Ω	570 Ω	
	100 M Ω	560 k Ω	
Equipment to Measure Resistance Variable ^{FO}	11 Ω to 32.999 Ω	130 $\mu\Omega/\Omega$ + 46 $\mu\Omega$	Fluke5502A GIDEP
	33 Ω to 109.999 Ω	160 $\mu\Omega/\Omega$ + 1.2 m Ω	
	110 Ω to 329.999 Ω	120 $\mu\Omega/\Omega$ + 3.5 m Ω	
	0.330 k Ω to 1.099 99 k Ω	140 $\mu\Omega/\Omega$ + 15 m Ω	
	1.1 k Ω to 3.299 9 9 k Ω	140 $\mu\Omega/\Omega$ + 44 m Ω	
	3.3 k Ω to 10.999 9 k Ω	140 $\mu\Omega/\Omega$ + 150 m Ω	
	11 k Ω to 32.999 9 k Ω	120 $\mu\Omega/\Omega$ + 340 m Ω	
	33 k Ω to 109.999 k Ω	140 $\mu\Omega/\Omega$ + 1.5 Ω	
	110 k Ω to 329.999 k Ω	150 $\mu\Omega/\Omega$ + 4.4 Ω	
	0.330 M Ω to 1.099 99 M Ω	190 $\mu\Omega/\Omega$ + 21 Ω	
	1.1 M Ω to 3.2999 9 M Ω	210 $\mu\Omega/\Omega$ + 66 Ω	
	3.3 M Ω to 10.999 9 M Ω	230 $\mu\Omega/\Omega$ + 240 Ω	
	11 M Ω to 32.999 9 M Ω	860 $\mu\Omega/\Omega$ + 2.7 k Ω	
	33 M Ω to 109.999 M Ω	1.6 Ω/Ω + 18 k Ω	
	110 M Ω to 329.999 M Ω	7.1 Ω/Ω + 220 k Ω	
	330 M Ω to 1 100 M Ω	30 Ω/Ω + 12 M Ω	
Equipment to output Resistance ^{FO}	0.1 to 10 Ω	25 $\mu\Omega/\Omega$ + 88 $\mu\Omega$	HP 3458A GIDEP
	10 Ω to 100 Ω	31 $\mu\Omega/\Omega$ + 30 $\mu\Omega$	
	100 Ω to 1 k Ω	19 $\mu\Omega/\Omega$ + 10 m Ω	
	1 k Ω to 10 k Ω	67 $\mu\Omega/\Omega$ + 38 m Ω	
	10 k Ω to 100 k Ω	120 $\mu\Omega/\Omega$ + 57 m Ω	
	100 k Ω to 1 M Ω	14 $\mu\Omega/\Omega$ + 15 Ω	
	1 M Ω to 10 M Ω	440 $\mu\Omega/\Omega$ + 410 Ω	
	10 M Ω to 100 M Ω	370 $\mu\Omega/\Omega$ + 300 Ω	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQU IPMENT AND REFERENCE STANDARDS USED
Equipment to Measure Capacitance ^{FO}	220 pF to 399.9 pF	1.9 % + 0.22 pF	Fluke 5502A GIDEP
	0.4 nF to 1.099 9 nF	0.35 % + 3.1 pF	
	1.1 nF to 3.299 9 nF	0.61 % + 2.2 pF	
	3.3 nF to 10.999 nF	0.26 % + 1.5 pF	
	11 nF to 32.999 nF	0.36 % + 30 pF	
	33 nF to 109.99 nF	0.55 % + 330 pF	
	110 nF to 329.99 nF	0.59 % + 1 nF	
	0.33 µF to 1.0999 µF	0.8 % + 5 nF	
	1.1 µF to 3.299 9 µF	0.93 % + 17 nF	
	3.3 µF to 10.999 µF	0.82 % + 51 nF	
	11 µF to 32.999 µF	1.3 % + 240 nF	
	33 µF to 109.99 µF	1.3 % + 830 nF	
	110 µF to 329.99 µF	1.5 % + 2.6 µF	
	0.33 mF to 1.099 9 mF	0.68 % + 1.2 µF	
	1.1 mF to 3.299 9 mF	0.8 % + 7 µF	
	3.3 mF to 10.999 mF	0.73 % + 18 µF	
	11 mF to 32.999 mF	2.3 % + 430 µF	
	33 mF to 110 mF	1.6 % + 440 µF	
Oscilloscopes DC Signal ^{FO}			Fluke 5502A/SC300 GIDEP
Into 1 MΩ	up to 33 V	0.033 % + 120 µV	
Into 50 Ω	up to 2.2 V	0.29 % + 110 µV	
Oscilloscopes AC Square Wave Signal ^{FO}			
Into 1 MΩ	1.8 mV to 105 V p-p	0.5 % + 9.5 µV	
Into 50 Ω	1.8 mV to 2.2 V p-p	0.28 % + 110 µV	
Oscilloscopes Square Wave Frequency ^{FO}	10 Hz to 10 KHz	7.9 µHz/Hz	
Oscilloscopes Edge ^{FO}			
Rise Time ^{FO}	<400 ps	+0 /-100 ps	
Amplitude Range ^{FO}	4.5 m V to 2.765 V	2.1 % +15 µV	
Frequency Range ^{FO}	1 KHz to 1 MHz	0.0025 % + 24 mHz	
Aberrations ^{FO}	< 10 ns	3 % + 2mV	
	10 ns to 30 ns	1 % + 2mV	
	>30 ns	0.5 % + 2mV	
Oscilloscopes Time Marker ^{FO}	2 ns to 10 ns	25 ppm	
	20 ns to 1 µs	25 ppm	
	2 µs to 50 µs	(25 +150 00t) ppm	
	100 µs to 5 s	(25 +1 000t) ppm	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQU IPMENT AND REFERENCE STANDARDS USED
Oscilloscopes Level Sine Wave ^{FO}			Fluke 5502A/SC300 GIDEP
Amplitude @ 50 KHz (50 Ohm)	5 mV to 5.5 V	2 % + 30 μ V	
Amplitude @ 50 KHz	0.5 V to 5 V	0.88 % + 4.2 mV	Tektronix SG504
Frequency Range	50 KHz to 300 MHz	0.003 % + 1.2 Hz	Fluke 5502A/SC300
Frequency Range	245 MHz to 550 MHz	0.44 % + 0.92 MHz	Tektronix SG504
	495 MHz to 1 050 MHz	5.1 % + 22 MHz	
Flatness - Relative 50 KHz (5 mV to 5.5 V)	50 KHz to 100 MHz	1.5 % + 100 μ V	Fluke 5502A/SC300
	100 MHz to 300 MHz	2 % + 100 μ V	
Flatness - Relative 50 KHz (0.5 V to 5 V)	245 MHz to 550 MHz	4 % of value at 50 kHz	Tektronix SG504
	495 MHz to 1 050 MHz	4 % of value at 50 kHz	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type B ^{FO}	600 °C to 800 °C	0.44 °C	Electrical Simulation of Thermocouple Output Multiproduct - Calibrator (Fluke 5502A) GIDEP
	800 °C to 1 000 °C	0.34 °C	
	1 000 °C to 1 550 °C	0.30 °C	
	1 500 °C to 1 820 °C	0.33 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C ^{FO}	0 °C to 150 °C	0.30 °C	
	150 °C to 650 °C	0.26 °C	
	650 °C to 1 000 °C	0.31 °C	
	1 000 °C to 1 800 °C	0.50 °C	
	1 800 °C to 2 316 °C	0.84 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E ^{FO}	-250 °C to -100 °C	0.50 °C	
	-100 °C to -25 °C	0.16 °C	
	-25 °C to 350 °C	0.44 °C	
	350 °C to 650 °C	0.16 °C	
	650 °C to 1 000 °C	0.21 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J ^{FO}	-210 °C to -100 °C	0.27 °C	Electrical Simulation of Thermocouple Output Multiproduct - Calibrator (Fluke 5502A) GIDEP
	-100 °C to -30 °C	0.16 °C	
	-30 °C to 150 °C	0.14 °C	
	150 °C to 760 °C	0.17 °C	
	760 °C to 1 200 °C	0.23 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K ^{FO}	-200 °C to -100 °C	0.33 °C	
	-100 °C to -25 °C	0.18 °C	
	-25 °C to 120 °C	0.16 °C	
	120 °C to 1 000 °C	0.26 °C	
	1 000 °C to 1 372 °C	0.40 °C	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQU IPMENT AND REFERENCE STANDARDS USED
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N ^{FO}	-200 °C to -100 °C	0.40 °C	Electrical Simulation of Thermocouple Output Multiproduct - Calibrator (Fluke 5502A) GIDEP
	-100 °C to -25 °C	0.22 °C	
	-25 °C to 120 °C	0.19 °C	
	120 °C to 410 °C	0.18 °C	
	410 °C to 1 300 °C	0.27 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R ^{FO}	0 °C to 250 °C	0.57 °C	
	250 °C to 400 °C	0.35 °C	
	400 °C to 1 000 °C	0.33 °C	
	1 000 °C to 1 767 °C	0.40 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S ^{FO}	0 °C to 250 °C	0.47 °C	
	250 °C to 1 000 °C	0.36 °C	
	1 000 °C to 1 400 °C	0.37 °C	
	1 400 °C to 1 767 °C	0.46 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T ^{FO}	-250 °C to -150 °C	0.63 °C	
	-150 °C to 0 °C	0.24 °C	
	0 °C to 120 °C	0.16 °C	
	120 °C to 400 °C	0.14 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type U ^{FO}	-200 °C to 0 °C	0.56 °C	
	0 °C to 600 °C	0.27 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 385, 100 Ω ^{FO}	-200 °C to -80 °C	0.05 °C	Electrical Simulation of Thermocouple Output Multiproduct - Calibrator (Fluke 5502A) GIDEP
	-80 °C to 0 °C	0.05 °C	
	0 °C to 100 °C	0.07 °C	
	100 °C to 300 °C	0.09 °C	
	300 °C to 400 °C	0.10 °C	
	400 °C to 630 °C	0.12 °C	
	630 °C to 800 °C	0.23 °C	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQU IPMENT AND REFERENCE STANDARDS USED
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 3916, 100 Ω^{FO}	-200 °C to -190 °C	0.25 °C	Electrical Simulation of Thermocouple Output Multiproduct - Calibrator (Fluke 5502A) GIDEP
	-190 °C to -80 °C	0.04 °C	
	-80 °C to 0 °C	0.05 °C	
	0 °C to 100 °C	0.06 °C	
	100 °C to 260 °C	0.07 °C	
	260 °C to 300 °C	0.08 °C	
	300 °C to 400 °C	0.09 °C	
	400 °C to 600 °C	0.10 °C	
	600 °C to 630 °C	0.23 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 3926, 100 Ω^{FO}	-200 °C to -80 °C	0.05 °C	Electrical Simulation of Thermocouple Output Multiproduct - Calibrator (Fluke 5502A) GIDEP
	-80 °C to 0 °C	0.05 °C	
	0 °C to 100 °C	0.07 °C	
	100°C to 300 °C	0.09 °C	
	300 °C to 400 °C	0.10 °C	
	400 °C to 630°C	0.12 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 385, 200 Ω^{FO}	-200 °C to -80 °C	0.04 °C	
	-80 °C to 0 °C	0.04 °C	
	0 °C to 100 °C	0.04 °C	
	100 °C to 260 °C	0.05 °C	
	260 °C to 300 °C	0.12 °C	
	300 °C to 400 °C	0.13 °C	
	400 °C to 600 °C	0.14 °C	
	600 °C to 630 °C	0.16 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 385, 500 Ω^{FO}	-200 °C to -80 °C	0.04 °C	Electrical Simulation of Thermocouple Output Multiproduct - Calibrator (Fluke 5502A) GIDEP
	-80 °C to 0 °C	0.05 °C	
	0 °C to 100 °C	0.05 °C	
	100 °C to 260 °C	0.06 °C	
	260 °C to 300 °C	0.08 °C	
	300 °C to 400 °C	0.08 °C	
	400 °C to 600 °C	0.09 °C	
	600 °C to 630 °C	0.11 °C	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQU IPMENT AND REFERENCE STANDARDS USED
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 385, 1 000 Ω^{FO}	-200 °C to -80 °C	0.03 °C	Electrical Simulation of Thermocouple Output Multiproduct - Calibrator (Fluke 5502A) GIDEP
	-80 °C to 0 °C	0.03 °C	
	0 °C to 100 °C	0.04 °C	
	100 °C to 260 °C	0.05 °C	
	260 °C to 300 °C	0.06 °C	
	300 °C to 400 °C	0.07 °C	
	400 °C to 600 °C	0.7 °C	
	600 °C to 630 °C	0.23 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Ni 120, 120 Ω^{FO}	-80 °C to 0 °C	0.08 °C	
	0 °C to 100 °C	0.08 °C	
	100 °C to 260 °C	0.14 °C	
	100 °C to 260 °C	0.04 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Ni 120, 120 Ω^{FO}	-100 °C to 260 °C	0.3 °C	

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Indirect Verification of Rockwell Hardness Testers HRA FO	20 HRA to 70 HRA	0.68 HRA	Rockwell Hardness Test Blocks ASTM E18, ASTM E10, ASTM 110
	70.01 HRA to 79 HRA	0.66 HRA	
	79.01 HRA to 84 HRA	0.5 HRA	
Indirect Verification of Rockwell Hardness Testers HRB FO	40 HRB to 60 HRB	1.99 HRB S	
	60.01 HRB to 88 HRB	1.32 HRB S	
	88.01 HRB to 100 HRB	1.32 HRB S	
Indirect Verification of Rockwell Hardness Testers HRC FO	20 HRC to 35 HRC	0.94 HRC	
	35.01 HRC to 60 HRC	0.69 HRC	
	60.01 HRC to 71 HRC	0.56 HRC	
Indirect Verification of Rockwell Hardness Testers HREW FO	70 HREW to 84 HREW	1.15 HREW	
	84.01 HREW to 93 HREW	1.19 HREW	
	93.01 HREW to 150 HREW	1.1 HREW	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Indirect Verification of Rockwell Hardness Testers HR15N ^{FO}	70 HR15N to 78 HR15N	0.68 HR15N	Rockwell Hardness Test Blocks ASTM E18, ASTM E10, ASTM 110
	78.01 HR15N to 90 HR15N	0.70 HR15N	
	90.01 HR15N to 92 HR15N	0.68 HR15N	
Indirect Verification of Rockwell Hardness Testers HR30N ^{FO}	40 HRN30N to 55 HRN30	1.15 HR30N	
	55.01 HRN30N to 77 HRN30N	0.96 HR30N	
	77.01 HR30N to 82 HR30N	0.75 HR30N	
Indirect Verification of Rockwell Hardness Testers HR45N ^{FO}	20 HR45N to 37 HRN45N	1.27 HR45N	
	37.01 HR45N to 66 HR45N	1.21 HR45N	
	66.01 HR45N to 72 HR45N	0.79 HR45N	
Indirect Verification of Rockwell Hardness Testers HR15T ^{FO}	74 HR15T to 81 HR15T	1.20 HR15T W	
	81.01 HR15T to 87 HR15T	1.19 HR15T W	
	87.01 HR15T to 93 HR15T	1.39 HR15T W	
Indirect Verification of Rockwell Hardness Testers HR30T ^{FO}	42 HR30T to 57 HR30T	1.26 HR30T	
	57.01 HR30T to 70 HR30T	1.21 HR30T	
	70.01 HR30T to 87 HR30T	1.33 HR30T	
Indirect Verification of Rockwell Hardness Testers HR45T ^{FO}	13 HR45T to 33 HR45T	1.21 HR45T	
	33.01 HR45T to 53 HR45T	1.33 HR45T	
	53.01 HR45T to 73 HR45T	1.16 HR45T	
Pressure Source/Measure ^{FO}			Mensor 14500 GIDEP
Pressure	0.2 psia to 16 psia	0.004 % of Reading + 0.02 psia	
	up to 0.3 psi	0.006 % of Reading	Fluke 700G01 GIDEP
	-12 psi to 30 psi	0.02 % of Reading + 0.006 psi	Fluke 700G05
	-12 psi to 300 psi	0.03 % of Reading + 0.04 psi	Fluke 2700G-BG2M
	-12 psi to 500 psi	0.017 % of Reading + 0.03 psi	Omega DPI603
	up to 3 000 psi	0.066 % of Reading	Fluke 2700G-G20M
	up to 10 000 psi	0.004 1 % psi of Reading	
	up to 15 psi	0.001 5 % of Reading	Ruska 2465 GIDEP
	up to 600 psi	0.006 % of Reading	
	90 psi to 850 psi	0.004 1 % of Reading	DH-Budenberg
	850 psi to 40 000 psi	0.009 4 % of Reading	CPB3800HP GIDEP

Mechanical



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Torque Measure ^{FO}	8 ozf·in to 80 ozf·in	0.13 % of Reading + 0.6 ozf·in	Mountz BMX80Z GIDEP
	5 lbf·in to 50 lbf·in	0.44 % of Reading + 0.5 lbf·in	Mountz BMX50i
	5 lbf·in to 100 lbf·in	0.13% of Reading	Larson UTWCS
	50 lbf·in to 250 lbf·in	0.76 % of Reading + 2.5lbf·in	Mountz BMX250i
	50 lbf·in to 500 lbf·in	0.61 % of Reading	Larson UTWCS
	25 lbf·ft to 250 lbf·ft	0.37 % of Reading	
	100 lbf·ft to 500 lbf·ft	0.36 % of Reading + 2 lbf -ft	Mountz BMX500F
	75 lbf·ft to 750 lbf·ft	1.9 % of Reading + 4 lbf- ft	AWS TT-QC-750F
	300 lbf·ft to 1500 lbf·ft	0.28 % of Reading + 6.8lbf·ft	CDI 15005-F-MT
Torque Source ^F	10 lbf·in to 50 lbf·in	0.014 % of Reading + 0.0012 lbf·in	Torque Wheel/Arm 5" & 10" Class F Weights GIDEP
	50 lbf·in to 250 lbf·in	0.056 % of Reading	
	250 lbf·in to 600 lbf·in	0.01 % of Reading + 0.033 lbf·in	
	50 lbf·ft to 250 lbf·ft	0.013 % of Reading + 0.0075lbf·ft	

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Humidity ^{FO}	Up to 40 % RH	1.6 %	Vaisala M170/HMP77 NA 17-20MH09, 17-20MH-27, PIC-HYG0010
	40 % RH to 97 % RH	1.4 %	
Oven/Chamber Temperature Uniformity Measure ^{FO}	32 °F to 2 400 °F	1.5 °F + 0.52 % of Reading	Fluke 1586A w/ Type K Thermocouple AMS 2750, E086, BAC 5621, ASTM B918/918M
	-112 °F to 1 400 °F	2.1 °F + 0.31 % of Reading	Fluke 1586A w/ Type J Thermocouple AMS 2750, E086, BAC 5621, ASTM B918/918M
Temperature Source ^{FO}	-80 °C to 0 °C	0.034 °C	Kaye 4007 w/ SPRT 5628, Fluke 1586A GIDEP
	0 °C to 100 °C	0.039 °C	
	100 °C to 660 °C	0.078 °C	Fluke 9144 w/ SPRT 5628, Fluke 1586A GIDEP



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Temperature Measure ^{FO}	-196 °C to 0.01 °C	0.021 °C + 0.003 1 % of reading	Fluke 1586A w/ SPRT 5628
	0.01 °C to 660 °C	0.021 °C + 0.007 4 % of reading	GIDEP
	0 °F to 200 °F	0.11 °F	Vaisala M170/HMP77 NA 17-20MH09, 17-20MH-27, PIC- HYG0010
Temperature Measurement Thermocouple ^{FO}	-210 to 1 200 °C	0.061 °C	Thermocouple, Fluke 5502A

Time & Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Stop Watches/Timer ^{FO}	1 s to 86 400 s	0.05 sec	Direct Comparison using Photo Totalize Method And Frequency Counter NIST SP 960-12
	60 s to 86 400 s	0.6 s	NIST Broadcast Frequency Characteristics and Calibrated Stopwatch NIST SP-960-12
Equipment to Measure Frequency ^{FO}	0.01 Hz to 2 MHz	0.5 μ Hz/Hz + 140 μ Hz	Fluke 5502A
	1 MHz to 225 MHz	5.3 μ Hz/Hz + 6.7 Hz	GIDEP
	100 MHz to 3 GHz	14 μ Hz/Hz + 200 Hz	HP 53181A GIDEP
Tachometer ^{FO}	10 RPM TO 999 99 RPM	0.67 % of Reading	Agilent 33120A w/ LED GIDEP



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Mass, Force and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Force Compression/Tension ^{FO}	up to 10 gf	0.04 mgf	ASTM Ultra and Class 1 Standard Weights GIDEP
	10 g to 100 gf	0.11 mgf	
	100 g to 500 gf	0.17 mgf	
	1 lbf to 5 lbf	0.0005 lbf	
	5 lbf to 10 lbf	0.001 lbf	
	10 lbf to 50 lbf	0.006 lbf	NIST Class F Weights GIDEP
	50 lbf to 100 lbf	0.005 lbf	
	100 lbf to 300 lbf	0.001 lbf	Load Cell with Indicator GIDEP
	300 lbf to 1 000 lbf	0.12 lbf	
	1 000 lbf to 5 000 lbf	0.007 lbf	
	5 000 lbf to 10 000 lbf	1.75 lbf	
Class F Weights and Non-Classified Weights ^F	1 mg to 5 g	(1.8 + 9 Wt) μ g	Direct Reading Method Sartorius MC 5, GIDEP
	10 g	0.05 mg	Comparison Method using ASTM Ultra and Class 1 Standard Weights and Balances: A&D HR-202i GIDEP
	20 g	0.09 mg	
	30 g	0.12 mg	
	50 g	0.22 mg	
	100 g	0.37 mg	
	200 g	0.44 mg	A&D MC-10K Class 1 Standard Weights GIDEP
	300 g	2.5 mg	
	500 g	1.6 mg	
	1 kg	3.2 mg	
	2 kg	4.9 mg	
	3 kg	5.9 mg	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Mass, Force and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Class F Weights and Non-Classified Weights ^F	4 kg	13 mg	A&D MC-10K Class 1 Standard Weights GIDEP
	5 kg	24 mg	
	10 kg	32 mg	
	20 kg	312 mg	Mettler PM34-K NIST Hndbk 44 & 105-1
	30 kg	339 mg	
Analytical and Precision Balances ^{FO}	1 mg	0.006 6 mg	Ultra and Class 1 Weights GIDEP
	10 mg	0.011 mg	
	20 mg	0.007 5 mg	
	50 mg	0.001 3 mg	
	100 mg	0.0031 mg	
	200 mg	0.001 1 mg	
	500 mg	0.004 1 mg	
	1 g	0.04 mg	
	2 g	0.009 6 mg	
	3 g	0.025 mg	
	5 g	0.022 mg	
	10 g	0.027 mg	
	20 g	0.072 mg	
	30 g	0.081 mg	
	50 g	0.15 mg	
	100 g	0.19 mg	
	200 g	0.25 mg	
	300 g	0.38 mg	
	500 g	0.88 mg	
	1 kg	1.3 mg	
	2 kg	3 mg	
	4 kg	4.1 mg	
	5 kg	11 mg	
	10 kg	20 mg	
	20 kg	200 mg	



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

Mass, Force and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Electronic Balances Weighing Scales ^{FO}	200 g	0.25 mg	Ultra and Class 1 Weights GIDEP
	300 g	0.38 mg	
	500 g	0.88 mg	
	1 kg	1.3 mg	
	2 kg	3 mg	
	4 kg	4.1 mg	
	5 kg	11 mg	
	10 kg	20 mg	
	20 kg	200 mg	

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor k (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer^F would mean that the laboratory performs this calibration at its fixed location.
4. The presence of a superscript FO means that the laboratory performs calibration of the indicated parameter both at its fixed location and onsite at customer locations. Example: Outside Micrometer^{FO} would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.
5. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratories fixed location for similar calibrations. This is due to the effects of transportation of the standards and equipment and upon environmental conditions at the customer site which are typically not controlled as closely as at the laboratories fixed location.
6. The term L represents length in inches or millimeters as appropriate to the uncertainty statement



Certificate of Accreditation: Supplement

Precision Instrument Correction, Inc.

933 Mariner Street, Brea CA 92821

Contact Name: Laura Camacho Phone: 714-671-6018

Accreditation is granted to the facility to perform the following calibrations:

7. The term "X" preceded by a number represents the number of times a lense system magnifies an image relative to its actual size. CMC stated as "% of magnification" represents the CMC of magnification expressed as a percentage of the total magnification.
8. The term D represents diameter in inches or millimeters as appropriate to the uncertainty statement.
9. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.

