CERTIFICATE OF ACCREDITATION

ANSI National Accreditation Board

11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

Precision Technical Services

2400 West Southern Avenue, Suite 104
Tempe, AZ 85282

has been assessed by ANAB and meets the requirements of international standard

ISO/IEC 17025:2017

and national standard

ANSI/NCSL Z540.3-2006 (R2013)

while demonstrating technical competence in the field of

CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

L2272
Certificate Number

ANAB Approval

Certificate Valid Through: 12/30/2022
Version No. 005 Issued: 10/28/2019

This laboratory 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 (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

ANSI National Accreditation Board

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017 AND ANSI/NCSL Z540.3-2006 (R2013)

Precision Technical Services
2400 West Southern Avenue, Suite 104
Tempe, AZ 85282
Kay Burrows 480-921-1021

CALIBRATION

Valid to: **December 30, 2022** Certificate Number: **L2272**

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Voltage Measure	(0 to 10) V	1.7 mV	Precision DMM
DC Current Measure	(0 to 20) mA	68 µA	Precision DMM
Thermocouple Millivolt Simulation – Source			Fluke 743B Process Calibrator
Type E	(-250 to 1 000) °C	0.27 °C	
Type N	(-200 to 1 300) °C	0.37 °C	
Type J	(-210 to 1 200) °C	0.27 °C	
Type K	(-200 to 1 372) °C	0.37 °C	
Type T	(-250 to 400) °C	0.37 °C	
Type B	(600 to 1 820) °C	0.93 °C	
Type R	(-20 to 1 767) °C	1 °C	
Type S	(0 to 1 760) °C	1 °C	
Type C	(0 to 2 316) °C	0.71 °C	
Thermocouple Millivolt Simulation – Measure			Fluke 743B Process Calibrator
Type E	(-250 to 1 000) °C	0.37 °C	
Type N	(-200 to 1 300) °C	0.59 °C	
Type J	(-210 to 1 200) °C	0.37 °C	
Type K	(-200 to 1 372) °C	0.37 °C	
Type T	(-250 to 400) °C	1 °C	
Type B	(600 to 1 820) °C	1 °C	
Type R	(-20 to 1 767) °C	1.2 °C	
Type S	(0 to 1 760) °C	1 °C	
Type C	(0 to 2 316) °C	0.71 °C	

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Gage Blocks[2]	(0.004 to >1) in	3.1 µin	Laseruler
	1 in 2 in 3 in 4 in	2.2 µin 4.1 µin 5.7 µin 7.3 µin	
	(4 to 20) in	(1.6 + 2.3*L*) µin	Comparator
Cylindrical Pins, Plugs and Wires	(0.01 to 4) in	12 µin	Laseruler
Pin Gages – Class Z	(0.1 to 2) in	16 µin	Laser Micrometer
Plain Ring Gages[2]	(0.1 to 12) in	(4 + 4.2*L*) µin	Ring Comparator
Thread Rings	(0.086 to 2.5) in	230 µin	Thread Setting Plugs
Thread Plugs Major Diameter Pitch Diameter, (4 to 80) tpi	(0.06 to 4) in (0.051 to 3.98) in	21 µin 93 µin	Supermicrometer 3-Wire Method
Dial Bore Gages [1] (0.0001 in Resolution)	(0.2 to 6) in	72 µin	Height Master
Calipers [1,2]	(0 to 6) in	290 µin	Gage Blocks
	(6 to 24) in	(320 + 18*L*) µin	
	(24 to 60) in	(530 + 1.1*L*) µin	
Outside Micrometer [1,2]	(0 to 4) in	(55 + 0.8*L*) µin	Gage Blocks
	(4 to 12) in	(75 + 2.5*L*) µin	
	(12 to 48) in	(71 + 5*L*) µin	
Micrometer Head	(0 to 2) in	25 µin	Laseruler
Depth Micrometers [1]	(0 to 12) in	130 µin	Depth Micrometer Calibrator
Inside Micrometers[2]	(0.5 to 24) in	(52 + 6.3*L*) µin	Mitutoyo LH-600D Linear Height Gage
Dial Indicators [1]	(0 to 1) in	32 µin	Micrometer Head

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Dial Indicators [1]	(1 to 6) in	310 µin	Linear Encoder
Height Gages [1,2]	(0 to 40) in	(270 + 4.7*L*) µin	Gage Blocks Analog Comparator
Test Indicators [1]	(0 to 0.1) in	35 µin	Height Master
Intramic / Hole Micrometer [1,2]	(0.2 to 3.6) in	(90 + 1.9*L*) µin	Setting Ring Gages
Wire Crimpers [1]	(0.011 to 0.5) in	120 µin	Pin Gages Crimp Height Micrometer

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Pressure Gages – Analog	(0 to 150) inH_2O (0 to 100) psig (100 to 1 000) psig (1 000 to 10 000) psig (10 000 to 30 000) psig	0.018 inH_2O 0.032 psi 0.32 psi 3.2 psi 39 psi	Comparison to Pressure Transducers
Pressure Transducers and Digital Gages	(0 to 150) inH_2O (0 to 100) psig (100 to 1 000) psig (1 000 to 10 000) psig	0.018 inH_2O 0.012 psi 0.12 psi 1.2 psi	Precision DMM and Pressure Source
Vacuum Gages	(-14.7 to 0) psiv	0.012 psi	Vacuum / Pressure Transducer
Torque Wrenches	(0.5 to 400) ozf·in (5 to 50) lbf·in (10 to 100) lbf·in (20 to 200) lbf·in (12.5 to 125) lbf·ft (25 to 250) lbf·ft (200 to 2 000) lbf·ft	0.26 % of reading 0.26 % of reading 0.26 % of reading 0.26 % of reading 0.26 % of reading 0.26 % of reading 0.26 % of reading	CDI Torque Transducers

Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Relative Humidity	(10 to 95) %RH	0.66 %RH	Comparison to a Rotronic HF532 Indicator and Probe
Infrared Thermometers	50 °C 100 °C 200 °C 350 °C 500 °C	0.66 °C 1.6 °C 3.3 °C 5.8 °C 8.9 °C	Blackbody Calibrator (Flat-Plate) λ = (8 to 14) µm ε = 0.95 (non-selectable)
Temperature Measure	(-200 to 1 372) °C	1.3 °C	Process Calibrator and thermocouple
Temperature Uniformity Surveys	(-200 to 1 372) °C	1.3 °C	Datalogger and thermocouples per AMS 2750E and BAC 5621

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (k=2), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
2. L = length in inches.
3. This scope is formatted as part of a single document including Certificate of Accreditation No. L2272.