



ANSI-ASQ National Accreditation Board/AClass

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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CALIBRATION

Valid to: December 1, 2010

Certificate Number: AC-1357

I. Dimensional

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Angles Squares Sine Plates and Bars	Up to 25 ° Up to 45 degrees	6 ″ 3 ″	Electronic level Master angles Sine bar and Gage Blocks	GIDEP and OEM based ISOCAL Procedures
Bore Gage Chamfer Gage	Up to 6 in	(154 + 15L) μin	Master rings	GIDEP and OEM based ISOCAL Procedures
Calipers	Up to 60 in	(578 + 15L) μin	Gage blocks, Rings	GIDEP and OEM based ISOCAL Procedures
Probes and Indicators	Up to 0.03 in (0.03 to 4) in	18 μin (37 + 15L) μin	Gage Blocks Mitutoyo Calibrator	GIDEP and OEM based ISOCAL Procedures
Gage Blocks	Up to 8 in (8 to 20) in	(3.8 + 1L) μin (3.9 + 1.7L) μin	P&W Labmaster Federal Comparator Probe/Amplifier	GIDEP and ANSI based ISOCAL Procedures
Height Master	(6 to 48) in	(60 + 3L) μin	Gage Blocks	GIDEP and OEM based ISOCAL Procedures
Height Gage	Up to 48 in	(43 + 15L) μin	Gage Blocks	GIDEP and OEM based ISOCAL Procedures
Level	Up to 24 in	2 ″	Wyler Minilevel Gage Blocks	GIDEP and OEM based ISOCAL Procedures
Length – contact	Up to 12 in (12 to 48) in	(5 + 2L) μin (274 + 6L) μin	Supermicrometer Trimos	GIDEP and OEM based ISOCAL Procedures



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Linear - Optical	Up to 8 in (8 to 16) in	(64 + 7L) μin (95 + 15L) μin	VMS3020 S-T 2450	GIDEP and OEM based ISOCAL Procedures
Micrometer	Up to 36 in	(78+15L) μ-inches	Gage Blocks	GIDEP and OEM based ISOCAL Procedures
Optical Comparator	Up to 30 in Screen Up to 100 X Magnification	(93+15L) μ-in .02%	Accu-Rite Stage Master Overlay	GIDEP and OEM based ISOCAL Procedures
Diameters	Up to 12 in	(22 + 4L) μin	Supermicrometer	ANSI/ASME B89.1.5 ASME B89.1.17
Setting Ring	Up to 12 in	(16 + 7L) μin	ID Comparator Gage Blocks	ASME B89.1.6
Surface Finish	Up to 125 μin	4 μin	Finish Standard Kosaka Analyzer	GIDEP and OEM based ISOCAL Procedures
Thread Plug Gage	Up to 6 in	(53 + 7L) μin	Supermicrometer Thread Wires	ASME B1.2 ASME B1.3M

II. Mechanical

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Torque Wrench	Up to 200 lbf-in (50 to 150) ft-lb (150 to 600) ft-lb	1.3 % 0.7 % 1.23 %	Calibrators	ISO-6789
Torque Calibrator	Up to 300 lbf-ft	0.2 %	Dead Weights Torque Arm	GIDEP and OEM based ISOCAL Procedures
Force Tension and Compression	Up to 100 lbf (100 to 200) lbf-ft (100 to 5 000) lbf-ft	0.08 % 0.93 % 5 lbf	Dead Weights Calibrator Proving Ring	GIDEP and OEM based ISOCAL Procedures
Pressure	Barometric (0 to 300) psi (300 to 10 000) psi	0.2 in Hg 0.1 % + 1 division 0.05 % + 1 division	Master Barometer Druck Calibrator Dead Weight Tester	GIDEP and OEM based ISOCAL Procedures
Scales and Balances	Up to 200 g (200 to 3 300) g (3.3 to 40) kg (50 to 300) lb	0.7 mg 0.2 g 2.0 g 0.12 lb	Class 1 weights Class 1 weights Class 3 weights Class 7 weights	GIDEP and OEM based ISOCAL Procedures

III. Thermodynamic

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Temperature Glass Type R T/C Type K T/C	30 to 300 °C	0.9 °C 1.25 °C 1.77 °C	Precision Master Thermometer Type R Master Fluke 5101 Drywell	GIDEP and OEM based ISOCAL Procedures
Humidity	Ambient	5% RH	Digital RH Indicator	GIDEP and OEM based ISOCAL Procedures

IV. Time & Frequency

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Timer	Up to 60 min	0.2 s	Master Clock	GIDEP and OEM based ISOCAL Procedures

Notes:

1. Best Measurement Capability (BMC) is the smallest uncertainty the laboratory can obtain under essentially optimum conditions, expressed at the 95% confidence level, using a coverage factor of $K=2$.
2. The uncertainties obtained in normal production or on-site may be greater than BMC due to less than optimal conditions, instruments being calibrated, and calibration instruments being used.
3. In the above table, "L" is the numerical value of the length in inches.
4. This scope is part of and must be included with the Certificate of Accreditation No.AC-1357



Vice President