



SCOPE OF ACCREDITATION

IAS Accreditation Number	CL-103
Company Name	A-Cal/Associated Calibration, Inc.
Address	4583 E Eisenhower Circle Anaheim, CA 92807
Contact Name	Marshall Doyle, President
Telephone	(714) 696-5300
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CALIBRATION AREA	RANGE & RESOLUTION	CALIBRATION & MEASUREMENT CAPABILITY ¹ (CMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
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<i>Dimensional</i>			
Calipers	0-4"/0.001" 0-6"/0.001" 0-8"/0.001" 0-12"/0.001" 0-18"/0.001" 0-24"/0.001" 0-36"/0.001" 0-40"/0.001" 0-60"/0.001"	0.001" 0.0012" 0.0015" 0.0016" 0.0018" 0.0019" 0.002" 0.0022" 0.0025"	Using Gauge Blocks and End Standards
	0-4"/0.0005" 0-6"/0.0005" 0-8"/0.0005" 0-12"/0.0005" 0-18"/0.0005" 0-24"/0.0005" 0-40"/0.0005" 0-60/0.0005	0.0004" 0.0005" 0.0007" 0.0008" 0.001" 0.0012" 0.0014" 0.0018"	Using Gauge Blocks and End Standards
Micrometers (External)	up to 2"/0.001" >2" up to 4"/0.001" >4" up to 6"/0.001" 6" to 8"/0.001" 8" to 12"/0.001"	0.001" 0.0013" 0.0015" 0.0016" 0.002"	Using Gauge Blocks
	Up to 2"/0.0001" >2" up to 4"/0.0001" >4" up to 6"/0.0001" 6" to 8"/0.0001" 8" to 12"/0.0001"	0.0001" 0.00012" 0.00014" 0.00017" 0.00019"	Using Gauge Blocks
Dial Indicator (Mechanical/Electronic)	0-1"/0.0005" 0-2"/0.0005"	0.0007" 0.0008"	Using Gauge Blocks
	0-1"/0.0001" 0-2"/0.0001"	0.0001" 0.00014"	
Strain Instruments and Recorders	0-1"/0.00005" 0-2"/0.00005"	0.00007" 0.00008"	Using Tinius Olsen CAL 60 Calibrator
	0-2"/0.0001"	0.00011"	
Depth Gauge	0-8"/0.001"	0.0015"	Using Gauge Blocks



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Ring Gauge	up to dia. 6"	0.00008"	On "Federal" Comparator with Gauge Blocks for Setting
Plug Gauges	up to dia. 1" > dia. 1" up to dia. 2" > dia. 2" up to dia. 4"	0.00005" 0.00007" 0.0001"	Gauge Blocks and Comparator Stand
Thread Plug Gauge	up to major dia. 1" (Effective/Pitch dia. & major dia. Only)	0.0005"	Using Three Wire Set and MU-checker
End Standards	up to 6" >6" up to 12" >12" up to 24" >24" up to 36"	0.000025" 0.000100" 0.000170" 0.000280"	Using Height Master, Riser Blocks, Gauge Blocks and Electronic Pick-up
Height Gauges	0-12"/0.001" 0-24"/0.001"	0.0016" 0.0019"	Using End Standards and Electronic pick-up with μ-checker
	0-12"/0.0001" 0-24"/0.0001"	0.00017" 0.00028"	
Riser Blocks	up to 12"	0.00008"	Using Gauge Blocks and Mμ-checker
Microscope	X-Y Range: 6" x 4" (Resolution 0.0001")	0.00018"	Using Gauge Blocks and Image Reticles
	X-Y Range: 6" x 4" (Resolution 0.0005")	0.0008"	
Super Micrometer	0-1"/0.0001"	0.00008"	Using Gauge Blocks
Bevel Protractor	0-360°/5 min of arc	10 min of arc	Using angle gauge blocks
Mass	5kg	150 mg	Use Conversion Factor of 1 lb = 453.59237 grams or 1 gram = 0.0022046 lbs
	2kg	15 mg	
	1kg	10 mg	
	100 g	0.08 mg	
	50 g	0.06 mg	
	30 g	0.04 mg	
	20 g	0.025 mg	
	10 g	0.025 mg	
	5 g	0.008 mg	
	3 g	0.008 mg	
2 g	0.008 mg		
1 g	0.008 mg		
Mass	500 mg	0.004 mg	Use Conversion Factor of 1 lb = 453.59237 grams or 1 gram = 0.0022046 lbs
	300 mg	0.004 mg	
	200 mg	0.002 mg	
	100 mg	0.002 mg	
Mass	50 mg	0.002 mg	Use Conversion Factor of 1 lb = 453.59237 grams or 1 gram = 0.0022046 lbs
	30 mg	0.002 mg	
	20 mg	0.002 mg	
	10 mg	0.002 mg	
	50 lbs	0.6 g	
	0 to 230 g	0.06 mg	
230 to 1,200 g	0.96 mg	Sartorius Electrical Analytical Balance	
1,200 to 34,00 g	0.075 g		
<i>Mechanical</i>			
Force – Compression	100-1000 gf	2%	Gram Force Gauges



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	2 to 20 lbf >20 to 5,000 lbf >5,000 to 6,000 lbf >6,000 to 20,000 lbf >20,000 to 200,000 lbf 297 to 3,000 lbf >3,000 to 6,000 lbf >6,000 to 30,000 lbf >30,000 to 120,000 lbf >120,000 to 300,000 lbf >300,000 to 600,000 lbf	0.04% of indicated value 0.04% of indicated value 0.04% of indicated value 0.05% of indicated value 0.06% of indicated value 0.03% of indicated value 0.03% of indicated value 0.03% of indicated value 0.04% of indicated value 0.05% of indicated value 112.6 lbf	ASTM E 4 Method - Using Proving Rings ASTM E 4 Method - Using Proving Rings ASTM E 4 Method Using Load Cells & Readout
Force – Tension	62 to 500 lbf >500 to 3,000 lbf >3,000 to 5,000 lbf >5,000 to 20,000 lbf >20,000 to 30,000 lbf >30,000 to 120,000 lbf	0.03% of indicated reading 0.03% of indicated reading 0.04% of indicated reading 0.05% of indicated reading 0.05% of indicated reading 0.06% of indicated reading	ASTM E 4 Using Proving Rings
Hardness Testers	HRC Scale HRA Scale HRBW Scale HRBS Scale HR15N Scale HR30N Scale HR45N Scale HR15T Scale HR30T Scale HR45T Scale	0.4 HRC 1.0 HRA 0.9 HRBW 0.9 HRBS 1.1 HR15N 1.1 HR30N 1.1 HR45N 1.1 HR15T 1.1 HR30T 1.1 HR45T Scale	Indirect Method (ASTM E 18) Sun Tech Standard Hardness Test Blocks
Durometer Type A, B, O Type C, D, DO Indentor Calibration	0-100 Points (56.08 g to 820.87 g) 0-100 Points (0 g to 4.53 Kg) 0.096 in to 0.100 in	2 Points 2 Points 0.000327"	Sartorius Electronic Balance Sartorius Electronic Balance Mitutoyo Digital Caliper



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Precision Balances, Single Pan Balances	1 mg to 35 kg up to 1 lb > 1 lb up to 2 lbs >2 lbs up to 5 lbs >5 lbs up to 10 lbs >10 lbs up to 20 lbs up to 50 lbs up to 80 g > 80 g to 3.6 kg > 3.6 kg to 6.1 kg	See note 8 mg 10 mg 12 mg 18 mg 150 mg 5 g 0.2 mg 10 g 100 g	Sartorius Ultra Class Weights Using Conversion Factor of 1 lb = 453.59237 grams or 1 gram = 0.0022046 lbs On Platform Scale
Precision Balances			
Platform Scales	0.5 lbs to 2,000 lbs	See note	Rice Lake Class F Weights
Pressure	0.1-10,000 psi 0-5,000 psi	0.01% of indicated value 0.3% of indicated value	Hydraulic Dead Weight Tester Pneumatic Digital Pressure Indicator
	0-120" of Hg 0-200" of Water 200-800" of Water 0-2,000" of Water	0.1% of indicated value 0.1% of indicated value 0.1% of indicated value 0.1% of indicated value	Using Digital Pressure Gauge Using Pressure Gauge Using Pressure Gauge Using Pressure Gauge
Vacuum - Measure	0 to 30 in Hg 30 to 120 in Hg	<0.003 in Hg 0.1 psig	Vacuum Gauge Digital Gauge
Torque - Measure	4 to 50 in. lbs.	0.25%	Torque Transducer, 10-100% of range
	>50 to 400 in. lbs.	0.45%	Torque Transducer, 10-100% of range
	>400 to 1000 in. lbs.	0.45%	Torque Transducer, 10-100% of range
	20 to 250 ft. lbs.	0.45%	Torque Transducer, 10-100% of range
	>250 to 2000 ft. lbs.	0.75%	Torque Wrench
<i>Thermal</i>			
Humidity - Measure	10.00 to 95.00% (-70 °C to 180 °C)	0.87% RH	Dig. Hygrometer Thermometer
Calibration of Thermocouples and Thermocouple Indicators	Type B	600 to 800 °C 800 to 1000 °C 1000 to 1550 °C 1550 to 1820 °C	0.44 °C 0.34 °C 0.3 °C 0.33 °C
	Type C	0 to 150 °C 150 to 650 °C 50 to 1000 °C 1000 to 1800 °C 1800 to 2316 °C	0.3 °C 0.26 °C 0.31 °C 0.5 °C 0.84 °C



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Type E	-250 to - 100 °C -100 to - 25 °C -25 to 350 °C 350 to 650 °C 650 to 1000 °C	0.5 °C 0.16 °C 0.14 °C 0.16 °C 0.21 °C	
Type J	C-210 °C to -100 °C -100 to -30 °C -30 to 150 °C 150 to 760 °C 760 to 1200 °C	0.27 °C 0.16 °C 0.14 °C 0.17 °C 0.23 °C	5500A Multifunction Calibrator
Type K	-210 °C to -100 °C -100 to -25 °C -25 to 120 °C 120 to 1000 °C 1000 to 1372 °C	0.33 °C 0.18 °C 0.16 °C 0.26 °C 0.4 °C	5500A Multifunction Calibrator
Type L	-200 to -100 °C -100 to 800 °C	0.37 °C 0.26 °C	
Type N	800 to 900 °C -200 to -100 °C -100 to -25 °C -25 to 120 °C 120 to 410 °C 410 to 1300 °C	0.17 °C 0.4 °C 0.22 °C 0.19 °C 0.18 °C 0.27 °C	
Type R	0 to 250 °C 250 to 400 °C 400 to 1000 °C 1000 to 1767 °C	0.57 °C 0.35 °C 0.33 °C 0.4 °C	
Type S	0 to 250 °C 250 to 1000 °C 1000 to 1400 °C 1400 to 1767 °C	0.47 °C 0.36 °C 0.37 °C 0.46 °C	
Type T	-250 to -150 °C -150 to 0 °C 0 to 120 °C 120 to 400 °C	0.63 °C 0.24 °C 0.16 °C 0.14 °C	
Type U	-200 to 0 °C 0 to 600 °C	0.56 °C 0.27 °C	
Calibration of RTD – Generate Pt 385, 100 Ω	-200 to 0 °C 0 to 100 °C 100 to 300 °C 300 to 400 °C 400 to 630 °C	0.05 °C 0.07 °C 0.09 °C 0.1 °C 0.12 °C	5500A Multifunction Calibrator



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Pt 3926, 100 Ω	630 to 800 °C -200 to 0 °C 0 to 100 °C 100 to 300 °C 300 to 400 °C 400 to 630 °C	0.23 °C 0.05 °C 0.07 °C 0.09 °C 0.1 °C 0.12 °C	
Pt 3916, 100 Ω	-200 to -190 °C -190 to -80 °C -80 to 0 °C 0 to 100 °C 100 to 260 °C 260 to 300 °C 300 to 400 °C 400 to 600 °C 600 to 630 °C	0.25 °C 0.04 °C 0.05 °C 0.06 °C 0.07 °C 0.08 °C 0.09 °C 0.1 °C 0.23 °C	
Pt 385, 200 Ω	-200 to 100 °C 100 to 260 °C 260 to 300 °C 300 to 400 °C 400 to 600 °C 600 to 630 °C	0.04 °C 0.05 °C 0.12 °C 0.13 °C 0.14 °C 0.16 °C	
Pt 385, 500 Ω	-200 to -80 °C -80 to 100 °C 100 to 260 °C 260 to 400 °C 400 to 600 °C 600 to 630 °C	0.04 °C 0.05 °C 0.06 °C 0.08 °C 0.09 °C 0.11 °C	5500A Multifunction Calibrator
Pt 385, 1000 Ω	-200 to 0 °C 0 to 100 °C 100 to 260 °C 260 to 300 °C 300 to 600 °C 600 to 630 °C	0.03 °C 0.04 °C 0.05 °C 0.06 °C 0.07 °C 0.23 °C	
PtNi 385, 120 Ω	-80 to 100 °C 100 to 260 °C	0.08 °C 0.14 °C	
Cu 427, 10 Ω	-100 to 260 °C	0.3 °C	
Temperature Calibration – Measure	0 - 199.999 999 Ω 200 - 1999.999 99 Ω	ppm Reading +mΩ 7.5 + 0.14 7.5 + 0.5	8508A Multimeter
Temperature Readout – Resistance	0 to 200Ω 200Ω to 2kΩ	(ppm Reading +mΩ) (7.5 + 0.14) (7.5 + 0.5)	Fluke 8508A (25 and 100Ω PRT/SPRT) (100Ω PRT/SPRT only)
Conductivity – Source	29.92 PIACS 44.70 PIACS	1% 0.35 PIACS	Conductivity Standards Conductivity Standards



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	58.93 PIACS	0.35 PIACS	Conductivity Standards
<i>Electromagnetic—DC/Low Frequency</i>			
AC Current – Source	0.029 to 0.32999 mA @10 to 20 Hz @20 to 45 Hz @45 Hz to 1 kHz @1 to 5 kHz @5 to 10 kHz	(% of Output + μ A) (0.25 + 0.15) (0.125 + 0.15) (0.125 + 0.25) (0.4 + 0.15) (1.25 + 0.15)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	0.33 to 3.2999 mA @10 to 20 Hz @20 to 45 Hz @45 Hz to 1 kHz @1 to 5 kHz @5 to 10 kHz	(% of Output + μ A) (0.2 + 0.3) (0.1 + 0.3) (0.1 + 0.3) (0.2 + 0.3) (0.6 + 0.3)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	3.3 to 32.999 mA @10 to 20 Hz @20 to 45 Hz @45 Hz to 1 kHz @1 to 5 kHz @5 to 10 kHz	(% of Output + μ A) (0.2 + 3) (0.1 + 3) (0.09 + 3) (0.2 + 3) (0.6 + 3)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	33 to 329.99 mA @10 to 20 Hz @20 to 45 Hz @45 Hz to 1 kHz @1 to 5 kHz @5 to 10 kHz	(% of Output + μ A) (0.2 to 30) (0.1 + 30) (0.09 + 30) (0.2 + 30) (0.6 + 30)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	0.33 to 2.19999 Amperes @10 to 20 Hz @45 Hz to 1 kHz @1 to 5 kHz	(% of Output + μ A) (0.2 + 300) (0.1 + 300) (0.75 + 300)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	2.2 to 11 Amperes @45 to 65 Hz @65 to 500 Hz @500 Hz to 1 kHz	(% of Output + μ A) (0.06 + 2000) (0.10 + 2000) (0.33 + 2000)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	AC Current – Measure	0 to 20mA @1 – 10Hz @10Hz - 10kHz @10k - 30kHz @30k - 100kHz >20 to 200mA	(ppm Reading plus ppm Range) (310 + 100) (300 + 100) (710 + 100) (0.4 % + 100)



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	@1 - 10Hz @10Hz - 10kHz @10k - 30kHz	(310 + 100) (290 + 100) (625 + 100)	
	>200mA to 2A @10 Hz- 2kHz @2k - 10kHz @10k - 30kHz	(620 + 100) (725 + 100) (0.3 % + 100)	Fluke 8508A
	>2 to 20A @10 Hz- 2kHz @2k - 10kHz 0 to 2500 Amperes	(820 + 100) (0.25 % + 100) 0.5% of measured value	Current Shunt & DMM
AC Voltage – Source	1.0 to 32.99 mV @10 to 45 Hz @45 Hz to 10 kHz @10 to 20 kHz @20 to 50 kHz @50 to 100 kHz @100 to 500 kHz	(% of Output + μV) (0.35 + 20) (0.15 + 20) (0.2 + 20) (0.25 + 20) (0.35 + 33) (1 + 60)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	33 to 329.999 mV @10 to 45 Hz @45 Hz to 10 kHz @10 to 20 kHz @20 to 50 kHz @50 to 100 kHz @100 to 500 kHz	(% of Output +μV) (0.25 + 50) (0.05 + 20) (0.1 + 20) (0.16 + 40) (0.24 + 170) (0.7 + 330)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	0.33 to 3.29999 V @10 to 45 Hz @45 Hz to 10 kHz @10 to 20 kHz @20 to 50 kHz @50 to 100 kHz @100 to 500 kHz	(% of Output + μV) (0.15 + 250) (0.03 + 60) (0.08 + 60) (0.14 + 300) (0.24 + 1700) (0.5 + 3300)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	3.3 to 32.9999 V @10 to 45 Hz @45 Hz to 10 kHz @10 to 20 kHz @20 to 50 kHz @50 to 100 kHz	(% of Output +μV) (0.15 + 2500) (0.04 + 600) (0.08 + 2600) (0.19 + 5000) (0.24 + 17000)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	33 to 329.999 V @45 Hz to 1 kHz @1 to 10 kHz @10 to 20 kHz	(% of Output +mV) (0.05 + 6.6) (0.08 + 15) (0.09 + 33)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator



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	330 to 1020 V @45 Hz to 1 kHz @1 to 5 kHz @5 to 10 kHz	(% of Output +mV) (0.05 + 80) (0.20 + 100) (0.20 + 500)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
AC Voltage - Measure	0 to 200mV @1 - 10Hz @10 - 40Hz @40 - 100Hz @100Hz - 2kHz @2k - 10kHz @10k - 30kHz @30k - 100kHz	ppm Reading plus ppm Range (165 + 70) (140 + 20) (115 + 20) (110 + 10) (135 + 20) (340 + 40) (765 + 100)	Fluke 8508A
	>200mV to 200V @1 - 10Hz @10 - 40Hz @40 - 100Hz @100Hz - 2kHz @2k - 10kHz @10k - 30kHz @30k - 100kHz @100k - 300kHz @300kHz - 1MHz	(150 + 60) (115 + 10) (90 + 10) (75 + 10) (110 + 10) (220 + 20) (570 + 100) (0.3% + 0.1%) (1% + 1%)	Fluke 8508A
	>200V to 1050V @1 - 10Hz @10 - 40Hz @40 - 10kHz @10k - 30kHz @30k - 100kHz	PPM Reading + PPM Range (150 + 70) (120 + 20) (115 + 20) (225 + 40) (580 + 200)	Fluke 8505A
	>1 to 20 kV @20 to 100 Hz	(0.4% of rdg. 40V)	Precision HV Meter
	>200mV to 200V @1 - 10Hz @10 - 40Hz @40 - 100Hz @100Hz - 2kHz @2k - 10kHz @10k - 30kHz @30k - 100kHz @100k - 300kHz @300kHz - 1MHz	(150 + 60) (115 + 10) (90 + 10) (75 + 10) (110 + 10) (220 + 20) (570 + 100) (0.3% + 0.1%) (1% + 1%)	Fluke 8508A
	>200V to 1050V @1 - 10Hz @10 - 40Hz @40 - 10kHz @10k - 30kHz	PPM Reading + PPM Range (150 + 70) (120 + 20) (115 + 20)	Fluke 8505A



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	@30k - 100kHz	(225 + 40) (580 + 200)	
	>1 to 20 kV @20 to 100 Hz	(0.4% of rdg. 40V)	Precision HV Meter
Capacitance – Source	1 nF 0 to 1 µF 1.0 to 1.0999 µF @50 to 1000 Hz	0.1% of indic. + 1 div 0.5% of reading (0.25% + 1nF) @ 5kHz	Standard Capacitor Decade Capacitor Multifunction Calibrator
	1.1 to 3.2999 µF @50 to 1000 Hz	(0.35% + 3nF) @ 2kHz	Multifunction Calibrator
	3.3 to 10.999 µF @50 to 400 Hz	(0.35% + 10nF) @ 1.5kHz	Multifunction Calibrator
	11 to 32.999 µF @50 to 400 Hz	(0.40% + 30nF) @ 800 Hz	Multifunction Calibrator
	33 to 109.99 µF @50 to 200 Hz	(0.50% + 100nF) @ 400 Hz	Multifunction Calibrator
	110 to 329.99 µF @50 to 100 Hz	(0.70% + 300nF) @ 200 Hz	Multifunction Calibrator
	330 to 1.1 mF @50 to 100 Hz	(1% + 300nF) @ 150 Hz	Multifunction Calibrator
DC Current – Source	0 to 3.29999 mA 3.3 mA to 32.9999 mA 33 mA to 329.999 mA 330mA to 2.19999 A 2.2 A to 11 A	(% of Output + µA) (0.013 + 0.05) (0.01 + 0.25) (0.01 + 3.3) (0.03 + 44) (0.06 + 330)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
DC Current – Measure	0 to 2mA >2 to 20mA >20 to 200mA >200mA to 2A >2 to 20A 0 to 2500 Amperes	(ppm Reading plus ppm Range) (12 + 2.0) (14 + 2.0) (48 + 4.0) (185 + 8.0) (400 + 20) 0.57% of measured value	Fluke 8508A Current Shunt & DMM
DC Voltage – Source	0 to 329.9999 mV 330mV to 3.299999V 3.3 to 32.99999V 33 to 329.9999V 100V to 1020V	(% Output plus µV) (0.006 + 3) (0.005 + 5) (0.005 + 50) (0.0055 + 500) (0.0055 + 1500)	Multifunction Calibrator
DC Voltage – Measure	0 to 200mV	(ppm Reading plus ppm Range) (5.0 + 0.5)	Fluke 8508A

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	>200mV to 20V >20 to 200V >200 to 1000.000V >1000 to 2000V >2 to 20kV	(3.5 + 0.2) (5.5 + 0.2) (5.5 + 0.5) (0.04% rdg. 0.4V) (0.04% rdg. 4V)	Precision HV Meter Precision HV Meter
Resistance - Source	0 to 10.99 Ω 11 to 32.999 Ω 33 to 109.999 Ω 110 to 329.999 Ω 330 to 1.09999 kΩ 1.1 to 3.29999 kΩ 3.3 to 10.9999 kΩ 11 to 32.9999 kΩ	(0.012% + 0.008 Ω) (0.012% + 0.015 Ω) (0.009% + 0.015 Ω) (0.009% + 0.015 Ω) (0.009% + 0.06 Ω) (0.009% + 0.06 Ω) (0.009% + 0.6 Ω) (0.009% + 0.6 Ω)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	110 to 329.999 kΩ 330 kΩ to 1.09999 MΩ 1.1 to 3.29999 MΩ 3.3 to 10.9999 MΩ 11 to 32.9999 MΩ 33 to 109.999 MΩ 110 to 330 MΩ	(0.012% + 6 Ω) (0.015% + 55 Ω) (0.015% + 55 Ω) (0.06% + 550 Ω) (0.1% + 550 Ω) (0.5% + 5.5 kΩ) (0.5% + 16.5 kΩ)	Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator Multifunction Calibrator
	1 Ω 10 Ω 1000 Ω 10,000 Ω	24x10 ⁻⁶ 16x10 ⁻⁶ 10x10 ⁻⁶ 25x10 ⁻⁶	Standard Resistor Standard Resistor Standard Resistor Standard Resistor
Resistance - Measure	0 to 2Ω >2 to 20Ω >20Ω to 200kΩ >200kΩ to 2MΩ	(ppm Reading plus ppm Range) (17 + 2.0) (9.5 + 0.7) (8.0 + 0.25) (9.0 + 0.5)	Fluke 8508A
	>2 to 20MΩ >20 to 200MΩ >200MΩ to 2GΩ	(20 + 5.0) (120 + 50) (1510 + 500)	Fluke 8508A
Inductance - Source (at 1 kHz nominal)	100 μH 1, 10 and 100 mH	0.25% 0.1%	Standard Inductors Standard Inductor
	1 and 10 H	0.1%	Standard Inductor
<i>Time and Frequency</i>			
Frequency - Measure	0 to 3 GHz	<3x10 ⁻⁷	Universal Counter
Frequency - Source	0.01Hz to 10 kHz >10 kHz to 2 MHz 5 s to 2 ns 50 kHz to 600 MHz	25 ppm of Frequency 25 ppm of Frequency 0.5% 1.5%	Multifunction Calibrator Multifunction Calibrator Scope Calibrator Scope Calibrator
	Time Verification	0 to 10 Hrs	0.043%
Stopwatches, Timers	24 Hrs (calculated)	8.6x10 ⁻³ Seconds Per Day	Vibrograf TM-4500

¹"Calibration and Measurement Capability" 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 of nearly ideal measuring instruments. Calibration and Measurement Capabilities are expressed as uncertainties at approximately the 95% level of confidence, usually using a coverage factor of

SCOPE OF ACCREDITATION

CALIBRATION AREA	RANGE & RESOLUTION	CALIBRATION & MEASUREMENT CAPABILITY ¹ (CMC) (±)	REFERENCE STANDARD/ EQUIPMENT
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k=2. The measurement uncertainty of a specific calibration performed by the laboratory may be greater than the least uncertainty due to the behavior of the customer's device, to the environment (if the calibration is performed in the field), and to influences from the circumstances of the specific calibration.

NOTE: Calibration parameters are performed primarily on-site at customer locations. The uncertainty of scale/balance calibration is highly dependent on local conditions, such as scale resolution and sensitivity, scale cleanliness, local gravity, temperature and humidity, dust, vibration, etc.; therefore, any statement of uncertainty is misleading. The class of the best weights used by the laboratory is shown in the Technique column. Use of weights in combination, whether in the same class or different classes, will increase measurement uncertainty resulting from the additive effect of weight tolerances, as defined in ASTM E 617