

International Accreditation Service, Inc.

CERTIFICATE OF ACCREDITATION

This is to signify that

A&G INSTRUMENT SERVICE & CALIBRATION, INC.

1227 NORTH TUSTIN AVENUE
ANAHEIM, CALIFORNIA 92807

Calibration Laboratory CL-107
(Revised June 12, 2009)

has demonstrated compliance with the ANS/ISO/IEC Standard 17025:2005, *General criteria for the competence of testing and calibration laboratories*, and has been accredited commencing November 1, 2007, for the calibration discipline(s) listed in the approved scope of accreditation. The laboratory meets the IAS program requirements in the field of calibration.



Patrick V. McCullen
Vice President



C. P. Ramani, P.E.
President

(see attached scope of accreditation for measurement area or type of test, range or quantity, best measurement capability, technique reference, standard equipment or unique conditions)

This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation, revocation, or expiration of accreditation. See the IAS *Accreditation Listings* on the web at www.iasonline.org for current accreditation information, or contact IAS directly at (562) 699-0541. Print Date: 06/12/2009 (page 1 only) Page 1 of 5

International Accreditation Service, Inc.

SCOPE OF ACCREDITATION

A&G Instrument Service & Calibration, Inc. CL-107

A&G Instrument Service & Calibration, Inc.
1227 North Tustin Avenue
Anaheim, CA 92807

Gloria Gomez
Vice President Quality Assurance
714-630-7400

MEASUREMENT AREA	RANGE & RESOLUTION	BEST MEASUREMENT CAPABILITY ¹ (BMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
<i>Mechanical</i> Level gages	0 to 2000" H ₂ O	0.1% Reading	350-DN2000 differential pressure simulator
Pressure gages	0 to 100" H ₂ O 0 to 1000 psia 0 to 200 psig >200 to 3000 psig >3000 to 5000 psig	0.02" H ₂ O 0.2 psia 0.034 psig 0.5 psig 0.9 psig	Heise digital indicator PTE-1 with: Module HQS-1 Module HQS-2 Module HQS-2 Module HQS-2 Module HQS-2
<i>Thermal</i> Thermometers	-50°F to +500°F	0.13°F	PT-100 RTD

November 1, 2007
Commencement Date



C. P. Ramani, P.E.
President

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<i>Thermal</i> Thermocouple – Generate Types J, K, T	-100°F to 2500°F	0.36°	Model 311570 Temperature Calibrator
Uniformity surveys Ovens, Incubators, Refrigerators	32°F 750°F 1750°F 2050°F	1.6°F 4.1°F 8.5°F 9.9°F	Model 311570 Temperature Calibrator, Chart recorder
Humidity - Generate	11% to 50% RH >50% to 80% RH	1.3% 1.4%	Vaisala M170
<i>Electrical – DC/LF</i> DC Voltage – Generate	0 to 100mV >100mV to 1V >1V to 10V	0.014mV 0.015mV 1.25mV	ISO-CAL-9000+
DC Voltage – Measure	0 to 100mV >100mV to 1V >1V to 10V	0.014mV 0.015mV 1.25mV	ISO-CAL-9000+

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<i>Electrical – DC/LF</i> DC Amps – Generate	0 to 50mA	0.0063mA	ISO-CAL-9000+
DC Amps - Measure	1 to 10mA >10mA to 50mA	0.00166mA 0.0073mA	ISO-CAL-9000+
<i>Time and Frequency</i> Frequency – Generate	0.3Hz to 100kHz	1.16Hz	Altek 241
Frequency - Measure	0.1Hz to 100kHz	5.8Hz	Altek 241

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<i>Chemical/Gas</i> Conductivity Analyzer, Resistivity Analyzer	100µS/cm to 100mS/cm 10kΩ/cm to 10Ω/cm	0.25% of nominal value	Certified solutions at 25°C
pH	4pH and 7pH 10pH	0.01pH 0.02pH	Certified solutions at 25°C
ORP	200mV to 600mV	2mV	Certified solutions at 25°C
Gas – O ₂	0.1% to 99.99%	5%	Certified Gas
Gas – CO ₂	1% to 99.99%	2%	Certified Gas

¹ "Best 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. Best Measurement Capabilities are expressed as uncertainties at approximately the 95% level of confidence, usually using a coverage factor of $k=2$. 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.

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