INTERNATIONAL ACCREDITATION SERVICE®

CERTIFICATE OF ACCREDITATION

This is to attest that

ERGONOMICS INC.

324 SECOND STREET PIKE, UNIT 2
SOUTHAMPTON, PENNSYLVANIA 18966

Calibration Laboratory CL-116

has met the requirements of the IAS Accreditation Criteria for Calibration Laboratories (AC204), has demonstrated compliance with the ISO/IEC Standard 17025:2005, *General requirements for the competence of testing and calibration laboratories*, and has been accredited commencing June 8, 2015, for the calibration discipline(s) listed in the approved scope of accreditation. The laboratory meets IAS program requirements in the field of calibration.

(see laboratory's scope of accreditation for fields of calibration and accredited calibration)

This accreditation certificate supersedes any IAS accreditation bearing an earlier effective date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation.
See http://iasonline.org/More/search.html for current accreditation information, or contact IAS at 562-364-8201.

ilac-MRA

ACCREDITED

C.P. Ramani, P.E., C.B.O
President

15-12065

SCOPE OF ACCREDITATION

IAS Accreditation Number	CL-116
Accredited Entity	Ergonomics, Inc.
Address	324 Second St. Pike, Unit 3 Southampton, PA 18966
Contact Name	David L. George
Telephone	(215) 357-5124
Effective Date of Scope	June 8, 2015

MEASUREMENT AREA	RANGE & RESOLUTION	CALIBRATION & MEASUREMENT CAPABILITY[1] (CMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
		Dimensional	
Length Caliper Micrometer	0 to 25 mm/0.001 mm 0 to 100 mm >100 to 150 mm >150 to 200 mm >200 to 300 mm >300 mm to 1000 mm	3.5 µm 10.5 µm 10.7 µm 11.2 µm 11.8 µm (12 +4*L*) µm	Use of step gage block and optical comparator.
Mass	up to 300 g/0.001 g >300 g to 3.2 kg/0.01g >3.2 to 10kg/2.0g >10 to 60kg/2.0g	0.008 g 0.01 g 0.85 g 1.5 g	Comparison to standard weights using scale
		Mechanical	
Angle	0 to 90°	0.4 min	Optical comparator
		Electrical – DC/LF	
Field Strength Magnetic	0 to 5 mT DC to 300 kHz	0.5% of Reading + 2 nT	Requires use of a Helmholtz Coil
Electrical	0 to 5 kV/m DC 0.5 kV/m AC 0 Hz to 300kHz	0.5% of Reading + 1 V/m 0.5% of Reading + 1 V/m	Requires reference plane
AC Volts - Measure	0 to 750 V 10 Hz to 1 kHz 1 kz to 20 kHz 20 to 100 kHz 100 to 300 kHz 300 kHz to 2 MHz >750 to 10 kV	%RDG + %RNG 0.04 + 0.002 0.006 + 0.002 0.3 + 0.002 0.4 + 0.01 1.5 + 0.01 0.044%	Agilent 3458A Agilent 3458A and Voltage Divider
AC Current - Measure	0 to 3 A 10 Hz to 5 kHz	0.21%	Agilent 3458A
DC Volts - Measure	0 to 1000 V >1000 to 10,000 V	0.0017% 0.04%	Agilent 3458A and Voltage Divider
DC Current – Measure	0 to 3 A	0.12%	Agilent 3458A
Resistance - Measure	0 to 100 >100 to 1 Ω	ppm of rdg + ppm of range 15 + 5 8 + 0.5	Agilent 3458A

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MEASUREMENT AREA	RANGE & RESOLUTION	CALIBRATION & MEASUREMENT CAPABILITY[1] (CMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
		Mechanical	
Force	0 to 300 g >300 g to 1.2 kg (11.77 N) >1.2 to 10 kg (98.067 N) >10 to 60 kg (222.61 N)	0.0000255 N 0.00057 N 0.0057 N 0.011 N	Use of weights
Impact Hammer	0 to 2J (Nm)	0.01 J (Nm)	Impact hammer test apparatus
Impact Energy	0 to 1J (Nm)	.0076 J (Nm)	This apparatus is defined in IEC 60068-2-65
Flow of Water	Up to 5 L/min/2.0 mL 5 to 15 L/min/2.0 mL 15 to 50 L/min/2.0 mL 50 to 110 L/min/2.0 mL	7.7 mL 24.6 mL 76.8 mL 295 mL	
		Temperature	
Temperature- (Glow Wire Test)	0 ºC (Distilled Ice Water) 960 ºC (Pure Silver)	0.5 ºC 0.5 ºC	Agilent 3458A DVM
Thermocouple	0 to 100 ºC/0.25 ºC	0.5 ºC	

[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 *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.