International Accreditation Service

CERTIFICATE OF ACCREDITATION

This is to signify that

ERGONOMICS, INC.
324 SECOND STREET PIKE, UNIT 3
SOUTHAMPTON, PENNSYLVANIA 18966

Calibration Laboratory CL-116

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 April 29, 2009, for the calibration discipline(s) listed in the approved scope of accreditation. The laboratory meets requirements of the IAS program in the field of calibration.

Patrick V. McCullen
Vice President

C. P. Ramani, P.E.
President

(see attached scope of accreditation for fields of testing and accredited test methods)

Print Date: 06/03/2009

International Accreditation Service

SCOPE OF ACCREDITATION

Ergonomics, Inc. CL-116

Ergonomics, Inc.
324 Second Street Pike, Unit 3
Southampton, PA 18966

David L. George, P.E.
Director of Engineering
(215) 357-5124

MEASUREMENT AREA	RANGE & RESOLUTION	BEST MEASUREMENT CAPABILITY[1] (BMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
Dimensional			
Length			Use of step gage block
Digital caliper, 0.02mm resolution	0 to 25 mm	3.5 microns	
	0 to 100 mm	10.5 microns	
	0 to 150 mm	10.7 microns	
	0 to 200 mm	11.2 microns	
	0 to 300 mm	11.8 microns	

April 29, 2009
Commencement Date

C. P. Ramani, P.E.
President

International Accreditation Service

SCOPE OF ACCREDITATION

Ergonomics, Inc. CL-116

MEASUREMENT AREA	RANGE & RESOLUTION	BEST MEASUREMENT CAPABILITY[1] (BMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
Dimensional (continued)			
Length			
Digital caliper, 0.02mm resolution			
Mass	up to 1.2 kg	0.09 Grams	
	>1.2 to 10 kg	0.66 Grams	
	>10 to 22 kg	1.5 Grams	
Mechanical			
Angle	0° to 90	0.33 minutes	Optical comparator
Electrical – DC/LF			
Field strength			
Magnetic	15 Hz to 20kHz	0.22% of range	Requires use of a Helmholtz Coil
	>20kHz to 60kHz	0.46% of range	Requires use of a Helmholtz Coil
	>60kHz to 120kHz	0.50% of range	Requires use of a Helmholtz Coil
Electrical	20Hz to 120kHz	0.34% of range	Requires use of a Helmholtz Coil
	>120kHz to 300kHz DC	0.64% of range	Requires use of a Helmholtz Coil
		0.60% of reading	DC is considered Static Field

April 29, 2009
Commencement Date

C. P. Ramani, P.E.
President

International Accreditation Service

SCOPE OF ACCREDITATION

Ergonomics, Inc. CL-116

MEASUREMENT AREA	RANGE & RESOLUTION	BEST MEASUREMENT CAPABILITY[1] (BMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUPMENT
AC Volts			
Measure	0 to 750 Vac		M3500A Pico Test
	10 Hz to 20 kHz	0.041%	
	>20 to 300 kHz	0.087%	
	>300 kHz to 1mHz	1.7%	
	>750 to 10 kVac		Voltage Divider
	50/60 Hz	0.044%	
AC Current	0 to 3A		
Measure	10 Hz to 5 kHz	0.21%	M3500A Pico Test
DC Volts			
Measure	0 to 1000 V	0.0017%	M3500A Pico Test
	>1000 to 10,000 V	0.04%	Voltage Divider
DC Current Measure	0 to 3 A	0.12%	M3500 Pico Test

April 29, 2009
Commencement Date

C. P. Ramani, P.E.
President

Print Date: 06/03/2009

International Accreditation Service

SCOPE OF ACCREDITATION

Ergonomics, Inc. CL-116

MEASUREMENT AREA	RANGE & RESOLUTION	BEST MEASUREMENT CAPABILITY[1] (BMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUPMENT
Mechanical			
Force	0 to 1.2 KG (11.77N) >1.2 to 10 KG (98.067N) >10 to 22.7 KG (222.61N)	0.00057N 0.0057N 0.011N	Use of weights
Impact Hammer	0 to 2J (Nm)	0.0086J (Nm)	Use of weights and gage blocks

[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: 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.

April 29, 2009
Commencement Date

C. P. Ramani, P.E.
President

Print Date: 06/03/2009