



CERTIFICATE OF CALIBRATION

Certificate #: LAB185495

Calibration Performed By:

MG&T LAB/DANVILLE

112 MAPLEWOOD STREET
DANVILLE, VA 24540

For:

LMI CORPORATION
101 N. ALLOY DRIVE

FENTON, MI 48430

Equipment Information

Serial Number: VGA-13-013

Description: LG VGA-13 BLOCK

Gage Type: CUSTOM

Size: PER PRINT

Unit of Measure: DEC DEG/INCH

PO Number: 70018368

Cal. Interval:

Cal Date: 08-Nov-2022

As Found Condition: Report of Value

Gage I.D. VGA-13-013

Calibration Location: MGT LAB DANVILLE

Performed By: S.COBB

Drawing Number:

Temp./RH: 69 F / 50 %

Cal. Due Date:

As Left Condition: Report of Value

Uncertainty

DISTANCES: +/- (54+ 7.6L) μ m
ANGLES: +/- 0.1°

Calibration Notes

VISUAL CONDITION: GOOD

Test Points

Seq.	Description	Standard	Tolerance +	Tolerance -	As Found	As Found Dev.	As Left	As Left Dev.	Unit of Meas.
1	DIMENSION A	0.00000	0.00000	0.00000	1.00143	1.00143	R 1.00143	1.00143	INCH
2	DIMENSION B	0.00000	0.00000	0.00000	0.74998	0.74998	R 0.74998	0.74998	INCH
3	DIMENSION C	0.00000	0.00000	0.00000	0.50126	0.50126	R 0.50126	0.50126	INCH
4	DIMENSION D	0.00000	0.00000	0.00000	0.50067	0.50067	R 0.50067	0.50067	INCH
5	DIMENSION E	0.00000	0.00000	0.00000	0.37485	0.37485	R 0.37485	0.37485	INCH
6	DIMENSION F	0.00000	0.00000	0.00000	0.25071	0.25071	R 0.25071	0.25071	INCH
7	DIMENSION G	0.00000	0.00000	0.00000	89.99199	89.99199	R 89.99199	89.99199	DEC DEG
8	DIMENSION H	0.00000	0.00000	0.00000	89.97934	89.97934	R 89.97934	89.97934	DEC DEG
9	DIMENSION I	0.00000	0.00000	0.00000	90.02113	90.02113	R 90.02113	90.02113	DEC DEG

Standards Used To Calibrate Equipment

Company	I.D.	Last Cal.	Cal. Due Date
MG&T LAB	MGT-588	1/5/2022	1/5/2023

Procedures Used In This Event:

Procedure Company	Procedure Name	Revision Level
Master Gage and Tool Company	WI# IT1042	J

KEY:

F = OBSERVED VALUES DO NOT MEET SPECIFICATIONS
L = OBSERVED VALUES DO NOT MEET SPECIFICATIONS/LIMITS GAGE USE
R = REPORT OF VALUE
A = ADJUSTED

UNCERTAINTY EXPRESSED AT $K = 2$ WHICH APPROXIMATES A 95% CONFIDENCE LEVEL, AND IS EXPRESSED IN MICROINCH UNLESS OTHERWISE NOTED. UNCERTAINTY FORMULA: $L = \text{LENGTH}$, $R = \text{RESOLUTION}$, $D = \text{DIAMETER}$.

DECISION RULE:

A "WITHIN SPECIFICATION" OR "OUTSIDE SPECIFICATION" RESULT INDICATES THE MEASURED VALUE FALLS WITHIN OR OUTSIDE UNMODIFIED LIMITS RESPECTIVELY. STATEMENTS OF CONFORMITY RESULTING FROM THE CALIBRATION PERFORMED ON THE ITEM(S) ARE BASED ON THE SIMPLE ACCEPTANCE METHOD (THIS METHOD DOES NOT INCLUDE MEASUREMENT UNCERTAINTY) UNLESS OTHERWISE SPECIFIED. THIS IS A SHARED RISK DECISION RULE WHICH THE CUSTOMER ALSO HAS RESPONSIBILITY FOR DETERMINING ACCEPTANCE OF THE RESULTS.

CALIBRATION RESULTS STATED HEREIN RELATE ONLY TO THE UNIT UNDER TEST. THIS GAGE HAS BEEN CALIBRATED OR VERIFIED WITH STANDARDS THAT ARE CERTIFIED ACCURATE AND TRACEABLE TO NIST. THESE MEASUREMENTS CONFORM TO SPECIFICATIONS EITHER PROVIDED BY THE CUSTOMER, MFG. OR OUTLINED IN ISO, ANSI, ASME, OR OTHER RELATIVE STANDARDS. ALL SERVICES ARE IN COMPLIANCE WITH ISO/IEC 17025:2017, ANSI/NCSL Z540-1-1994, MIL-STD-45662A. HARDNESS TESTERS ARE A "INDIRECT VERIFICATION" PER ASTM E18, E384, E110, AND E10. A CMM IS A "VERIFICATION ONLY" AS NO ADJUSTMENTS CAN BE MADE EXCEPT BY THE OEM.

CALIBRATION INTERVAL SHOWN IS PER CUSTOMER'S SPECIFICATIONS.

WHEN THE CALIBRATION IS PERFORMED AT CUSTOMER'S SITE, ENVIRONMENTAL CONDITIONS ARE CONTROLLED BY THE CUSTOMER AND NOTED ON THE CERTIFICATE, OR CALIBRATED AT OUR FACILITY AT 68 DEG. WITH A RELATIVE HUMIDITY REFERENCE NAVAIR 17-35FR-06 3.2.1.

ANY NUMBER OF FACTORS MAY CAUSE CALIBRATION ITEM TO DRIFT OUT OF CALIBRATION BEFORE THE RECOMMENDED INTERVAL HAS EXPIRED. THESE GAGES ARE DIRECT CONTACT INSTRUMENTS AND SOME WEAR WILL OCCUR AFTER USAGE. THE PURCHASER OR USER SHOULD PERIODICALLY RE-CALIBRATE THESE GAGES OR RETURN TO MASTER GAGE & TOOL CO (MGT). FOR CALIBRATION, MGT CANNOT AND DOES NOT WARRANT OR GUARANTEE THAT THESE GAGES WILL MAINTAIN THIS LEVEL OF TOLERANCE AFTER SHIPMENT OR USAGE. ANY MISUSE OR ABUSE, OR ALTERATION TO THESE GAGES, VOIDS ALL CERTIFICATION AND WARRANTIES. MGT IS HELD HARMLESS BY PURCHASER, USER, OR CUSTOMER AND ACCEPTS NO RESPONSIBILITY FOR THE USE OF THIS GAGE. THIS CERTIFICATE OR REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE CORPORATE METROLOGY SERVICE MANAGER: ROBERT HEGNER

