

Calibration Certificate

Certificate #: ACS -1265

Issue Date: 3/28/2014



Lab 1032

Calibration Performed By:

ADVANCED CHAMBER SERVICES

3361 MATOAKA ROAD

SUFFOLK, VA 23434-7116

For:

US ARMY RESEARCH LABORATORY, APG

BLDG 4600, LAB 1032

ABERDEEN PROVING GROUND, MD 21005

Equipment Information

I.D.: 3177J
Manufacturer: THELCO
Description: OVEN
Temp./RH: 21.8 °C / 42.7 % RH
Cal. Interval: 12 MONTHS
Cal. Date: 3/24/2014

Serial Number: 699020978
Model Number: DL-130D
Unit of Measure: °C
Performed By: NED GOLDEN
Cal. Due Date: Mar-2015
Calibration Result: PASS

Calibration Notes

The data that may be found in this certificate should be interpreted as follows:

As Found: Calibration result observed before the unit is adjusted and/or repaired.

As Left: Calibration result observed after the unit is adjusted and/or repaired. If the "As Left" results equal the "As Found" results, no adjustment was necessary. "As Left" results, where adjustments were necessary, will be marked with an "A".

The calibration result should be interpreted as follows (as it appears under the field marked "Calibration Results"):

ADJ: Unit was out of tolerance, and after adjustments were made during calibration, the unit indicated within tolerance upon final calibration.

PASS: Unit was within tolerance, and indicated within tolerance during calibration. No adjustments were made to the unit.

Fail: Unit was out of tolerance and attempts to adjust the unit were unsuccessful. A recommendation to repair may be made at this point.

This calibration was performed in compliance with the requirements set forth in ISO/IEC 17025: 2005. Reference standards used for this calibration are traceable to SI through National Institute of Standards and Technology. The measurement uncertainties expressed represent expanded uncertainties calculated for a 95% confidence level, using a coverage factor of $k = 2$. Due date for calibration may be indicated in this report. It should be noted however, that a number of factors can cause a unit to drift out of tolerance before its due date. This report may not be reproduced, other than in full without permission of Advanced Chamber Services. The ITS 90 temperature curve was used for any applicable temperature measurements expressed in this report. The results indicated in this report relate only to the unit tested and calibrated.

Notes and Comments:

Approved Signatory:



Calibration Certificate

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Issue Date: 3/28/2014

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Cal. Date: 03/24/2014
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Performed By: NED GOLDEN

Test Points

Seq.	Description	Standard	Tolerance -	Tolerance +	Unit	As Found	As Left	Uncertainty
Temperature Set Points								
1	71 °C	71.3	70.3	72.3	°C	71.0	71.0	0.09
2	121 °C	121.6	120.6	122.6	°C	121.0	121.0	0.09
3	176 °C	176.1	175.1	177.1	°C	176.0	176.0	0.09

Procedures Used In This Event:

Procedure Company	Procedure Name	Description	Revision Level	Revision Date
ADVANCED CHAMBER SERVICES	ACS S-1	SYSTEM CALIBRATION	LEVEL 1	9/15/2012

Standards Used To Calibrate Equipment

Manufacturer	Model Number	ID Number	Serial Number	Cal. Due Date
FLUKE	52	1006	90460078	4/24/2014