# CERTIFICATI DI CALIBRAZIONE DEGLI STRUMENTI UTILIZZATI

Aree interessate: Cleanbooth

Cliente: MAFLEX S.r.l.
Via Sant'Ambrogio, 2 - 22070 Carbonate (CO)

Commessa: 2924012

**Data riqualificazione:** 17 giugno 2020

Normativa di riferimento: UNI EN ISO 14644-1:2016

| Rev. | Descrizione revisione | Data emissione | Emesso da | Timbro e firma |
|---|---|---|---|---|
| 00 | Prima emissione | 17/06/2020 | Fabiano Marastoni | Galvani Clean technology Via Monti Lessini n. 8 37057 S. GIOVANNI LUPATOTO (VR) Cod. fisc. e Partita I.V.A. 0086440 023 9 |

# Indice generale

# 1 STRUMENTI E CERTIFICATI

## 1.1 ELENCO STRUMENTI E RELATIVI CERTIFICATI

| STRUMENTO | COSTRUTTORE | MODELLO | S/N |
|---|---|---|---|
| PARTICLE COUNTER | TSI | AEROTRAK APC9500-01 | **95001751010** |
| AIRDATA MULTIMETER | SHORTRIDGE | ADM-860 | **M00037** |
| MULTIFUNZIONE | KIMO | AMI-300 | **11049460** |

## 1.2 PARTICLE COUNTER

amira

# CERTIFICATE OF CALIBRATION

Amira Srl, Via Vecchia Milanese 12, Triuggio, MB 20844 ITA
Tel: (+39) 0362 528178 Fax: (+39) 0362 919596 http://www.amirasrl.com

| Environment Condition | | |
|---|---|---|
| Temperature | 75,6 (24,2) | °F (°C) |
| Relative Humidity | 49 | %RH |
| Barometric Pressure | 28,79 (975,0) | inHg (hPa) |

| | |
|---|---|
| Model | 9500-01 |
| Serial Number | 95001751010 |
| Customer Inst ID | GALVANI |

☒ As Left ☐ As Found

☒ In Tolerance ☐ Out of Tolerance

| AeroTrak Calibration Kit | | | |
|---|---|---|---|
| Measurement Variable | System ID | Date Last Calibrated | Calibration Due Date |
| Flow | 40401342001 | 08/07/2019 | 08/07/2020 |
| Flow | 40431343008 | 08/07/2019 | 08/07/2020 |
| Particle Count | 72011339002 | 09/09/2019 | 09/09/2020 |

| Particle Standards | | | | |
|---|---|---|---|---|
| Particle Size | Standard Uncertainty | Standard Deviation | Lot No. | Expiration Date |
| 0,508 µm | 0,004 µm | 0,009 µm | 201405 | 31/08/2021 |
| 0,702 µm | 0,003 µm | 0,005 µm | 204048 | 31/10/2021 |
| 0,994 µm | 0,008 µm | 0,01 µm | 200992 | 31/08/2021 |
| 2,92 µm | 0,03 µm | 0,03 µm | 206030 | 31/12/2021 |
| 4,9 µm | 0,15 µm | 0,5 µm | 194774 | 28/02/2021 |
| 9,7 µm | 0,2 µm | 1 µm | 203900 | 31/10/2021 |

*TSI does hereby certify that the calibration performed on the above described instrument meets the requirements of ISO 21501-4. TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI is registered to ISO-9001:2008.*

Calibrated

October 15, 2019
Date

Model 9500-01 SN 95001751010 martedì 15 ottobre 2019

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# CERTIFICATE OF CALIBRATION

Amira Srl, Via Vecchia Milanese 12, Triuggio, MB 20844 ITA
Tel: (+39) 0362 528178 Fax: (+39) 0362 919596 http://www.amirasrl.com

| Size Calibration and Verification of Size Setting | | | |
|---|---|---|---|
| Nominal Particle Size | Gain Stage | Digital Cutpoint | Expanded Uncertainty |
| 0,5 µm | A | 294 | 3.9% |
| 0,7 µm | A | 570 | 3.7% |
| 1 µm | A | 835 | 3.9% |
| 3 µm | A | 525 | 4.1% |
| 5 µm | A | 1.133 | 7.1% |
| 10 µm | B | 4.183 | 5.4% |

| Counting Efficiency | | | |
|---|---|---|---|
| Particle Size | Actual | Allowable Range | Pass/Fail |
| 0,5 µm | 47% | 50% ± 20% | Pass |
| 1 µm | 106% | 100% ± 10% | Pass |

| Size Resolution | | | |
|---|---|---|---|
| Particle Size | Measured | Allowable Range | Pass/Fail |
| 0,5 µm | 6,9% | ≤15% | Pass |

| False Count Rate | | | | | | |
|---|---|---|---|---|---|---|
| Sample Time (min) | Sampled (L) | Measured Counts (#) | Concentration (#/M$^3$) | 95% UCL (#/M$^3$) | Allowable Range (#/M$^3$) | Pass/Fail |
| 15 | 1.488 | | 0,00 | 2,0 | ≤2,0 | Pass |

| Sampling Flow Rate (L/min) | | | | |
|---|---|---|---|---|
| Nominal | Actual | Error | Allowable Range | Pass/Fail |
| 100.0 | 99 | -0,8 % | ± 5% | Pass |

| Sampling Time † | | |
|---|---|---|
| Measured | Allowable Range | Pass/Fail |
| < ± 0,1% | ± 1% | Pass |

| Response Rate † | | |
|---|---|---|
| Measured | Allowable Range | Pass/Fail |
| 0,02% | ≤ 0,5% | Pass |

| Maximum Particle Concentration † |
|---|
| 15000000 #/m$^3$ @10% Coincidence Loss |

† Tested and verified during product development

| Calibration Interval | |
|---|---|
| Calibration Date | Expiration Date |
| October 15, 2019 | October 15, 2020 |

Model 9500-01 SN 95001751010 martedì 15 ottobre 2019

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## 1.3 AIRDATA MULTIMETER

### AIRDATA MULTIMETER CERTIFICATE OF RECALIBRATION

Customer ID: 010201 S/N: M00037
Customer: GALVANI S.R.L. City: VERONA State: IT
As-Received Model #: ADM-860 Converted to Model #: Order #: R193022
PO #: Customer Eqpt ID#: Calibration Due Date:

This instrument has been calibrated using Calibration Standards which are traceable to NIST (National Institute of Standards and Technology). Test accuracy ratio is 4:1 for pressures and temperature. Quality Assurance Program and calibration procedures meet the requirements for ANSI/NCSL Z540-1, ISO 17025, MIL-STD 45662A and manufacturer's specifications. Calibration accuracy is certified when meters are used with properly functioning accessories only. All Uncertainties are expressed in expanded terms (twice the calculated uncertainty). This report shall not be reproduced, except in full, without the written approval of Shortridge Instruments, Inc. Results relate only to the item calibrated. For limitations on use, see Shortridge Instruments, Inc. Instruction Manual for the use of AirData Multimeters. Procedure used: Procedure for Differential Pressure, Absolute Pressure and Temperature Recalibration of AirData Multimeters SIP-CP02 Revision: 30 Dated: 04/04/16

Calibration Technician(s): M. Ramirez Y. Laubmeier Calibration Date: 10/24/2019
Calibration Approved by: D. Bado Title: Asst. Cal Supv. Date: 10/25/2019

AS-Received By MR
Date 10/16/2019 Rh 26 %
Ambient Temperature 76 °F
Barometric Pressure 28.47 in Hg
All within spec YES NO NA

Final Test By YL
Date 10/24/2019 Rh 28 %
Ambient Temperature 75 °F
Barometric Pressure 28.48 in Hg
All within spec YES NO

Test By
Date N/A Rh %
Ambient Temperature °F
Barometric Pressure in Hg
All within spec YES NO

ABSOLUTE PRESSURE TEST (in Hg)

TEST METER TOLERANCE = ± 2.0 % ± .1 in Hg AS-RECEIVED TEST WITHIN SPEC YES NO N/A See Notes

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pressure Standard: Heise #02-R | S/N: 41741/42451 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #12A-R | S/N: 45605/48491 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #04-R | S/N: 41743/42453 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #14-R | S/N: 43412/45043-2 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #06-R | S/N: 41742/42452-1 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #16-R | S/N: 43413/45044 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #08-R | S/N: 42186/43328 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #18-R | S/N: 44581/46845 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #10-R | S/N: 42203/43352 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #20-R | S/N: 44582/46847 | As-Rcvd | Test 2 | Test 3 |

| Approx Set Pt | Standard | Test Meter | % Diff | Standard | Test Meter | % Diff | Standard | Test Meter | % Diff |
|---|---|---|---|---|---|---|---|---|---|
| 14.0 | 14.04 | 14.0 | -.28 | 14.21 | 14.2 | -.07 | | | |
| 28.4 | 28.47 | 28.5 | .11 | 28.48 | 28.5 | .07 | N/A | | |
| 40.0 | 40.04 | 40.0 | -.10 | 40.36 | 40.3 | -.15 | | | |

DIFFERENTIAL PRESSURE TEST (in wc)

TEST METER TOLERANCE = ± 2.0 % ± 0.001 in wc AS-RECEIVED TEST WITHIN SPEC YES NO N/A See Notes

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pressure Standard: Heise #01-L | S/N: 41739/42449 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #11-L | S/N: 43165/44551-1 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #01-R | S/N: 41739/42446 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #11-R | S/N: 43165/44730 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #02-L | S/N: 41741/42454 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #12A-L | S/N: 45605/48490 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #03A-L | S/N: 45570/48461 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #13-L | S/N: 43415/45041 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #03A-R | S/N: 45570/48460 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #13-R | S/N: 43415/45039 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #04-L | S/N: 41743/42456 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #14-L | S/N: 43412/45045 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #05-L | S/N: 41740/42450 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #15-L | S/N: 43416/45042 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #05-R | S/N: 41740/42447 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #15-R | S/N: 43416/45040 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #06-L | S/N: 41742/42455 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #16-L | S/N: 43413/45046 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #07-L | S/N: 42185/42186 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #17-L | S/N: 44579/46842 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #07-R | S/N: 42185/43326 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #17-R | S/N: 44579/46841 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #08-L | S/N: 42186/43329 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #18-L | S/N: 44581/46846 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #09-L | S/N: 42202/43351 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #19-L | S/N: 44580/46844 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #09-R | S/N: 42202/43350 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #19-R | S/N: 44580/46843 | As-Rcvd | Test 2 | Test 3 |
| Pressure Standard: Heise #10-L | S/N: 42203/43353 | As-Rcvd | Test 2 | Test 3 | Pressure Standard: Heise #20-L | S/N: 44582/46848 | As-Rcvd | Test 2 | Test 3 |

| Approx Set Pt | Standard | Test Meter | % Diff | Standard | Test Meter | % Diff | Standard | Test Meter | % Diff |
|---|---|---|---|---|---|---|---|---|---|
| .0500 | .0500 | .0501 | .20 | .0501 | .0501 | 0 | | | |
| .1250 | .1254 | .1255 | .08 | .1266 | .1267 | .08 | | | |
| .2250 | .2268 | .2269 | .04 | .2230 | .2229 | -.04 | | | |
| 1.000 | 1.035 | 1.037 | .19 | 1.021 | 1.022 | .10 | | | |
| 2.000 | 2.053 | 2.058 | .24 | 2.017 | 2.016 | -.05 | | N/A | |
| 3.600 | 3.686 | 3.675 | -.30 | 3.610 | 3.601 | -.25 | | | |
| 4.400 | 4.453 | 4.466 | .29 | 4.423 | 4.434 | .25 | | | |
| 27.00 | 27.13 | 27.27 | .52 | 27.35 | 27.42 | .26 | | | |
| 50.00 | 50.01 | 50.17 | .32 | 50.03 | 50.01 | -.04 | | | |
| Overange | NA | ✓ | NA | NA | ✓ | NA | NA | | NA |

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## AIRDATA MULTIMETER CERTIFICATE OF RECALIBRATION

S/N: M00037
Order #: R193022

### LOW VELOCITY CONFIRMATION (FPM)

TEST METER TOLERANCE = ± 3.0% ± 7 FPM  AS-RECEIVED TEST WITHIN SPEC (YES) NO N/A See Notes

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Vel Eqv Trans Std: S/N: M02009 | As-Rcvd | Test 2 | Test 3 | Vel Eqv Trans Std: S/N: M10897 | As-Rcvd | Test 2 | Test 3 |
| Vel Eqv Trans Std: S/N: M02903 | As-Rcvd | (Test 2) | Test 3 | Vel Eqv Trans Std: S/N: M10901 | As-Rcvd | Test 2 | Test 3 |
| Vel Eqv Trans Std: S/N: M10839 | As-Rcvd | Test 2 | Test 3 | Vel Eqv Trans Std: S/N: M13492 | As-Rcvd | Test 2 | Test 3 |
| Vel Eqv Trans Std: S/N: M10840 | As-Rcvd | Test 2 | Test 3 | Vel Eqv Trans Std: S/N: M19325 | (As-Rcvd) | Test 2 | Test 3 |

| Approx Set Point | Standard | Test Meter | Diff | Standard | Test Meter | Diff | Standard | Test Meter | Diff |
|---|---|---|---|---|---|---|---|---|---|
| 100 | 101 | 100 | -1 | 104.0 | 103 | -1.0 | | NA | |
| 500 | 502 | 504 | 2 | 516.6 | 517 | .4 | | | |

ADM-880C, ADM-870/870C and ADM-860/860C models are read in AirFoil Mode. ADM-850/850L models are read in Pitot Tube Mode.

### TEMPERATURE TEST - AIRDATA MULTIMETER (° F)

TEST METER TOLERANCE = ± 0.2° F  AS-RECEIVED TEST WITHIN SPEC (YES) NO N/A See Notes

| | | | | | | |
|---|---|---|---|---|---|---|
| RTD Simulator: S/N 249 | (As-Rcvd) | Test 2 | Test 3 | Set Point: (35.6° F) | 95° F | 154.4° F |
| RTD Simulator: S/N 250 | (As-Rcvd) | Test 2 | Test 3 | Set Point: 35.6° F | (95° F) | 154.4° F |
| RTD Simulator: S/N 253 | (As-Rcvd) | Test 2 | Test 3 | Set Point: 35.6° F | 95° F | (154.4° F) |
| RTD Simulator: S/N 254 | As-Rcvd | (Test 2) | Test 3 | Set Point: (35.6° F) | 95° F | 154.4° F |
| RTD Simulator: S/N 256 | As-Rcvd | (Test 2) | Test 3 | Set Point: 35.6° F | (95° F) | 154.4° F |
| RTD Simulator: S/N 257 | As-Rcvd | (Test 2) | Test 3 | Set Point: 35.6° F | 95° F | (154.4° F) |
| RTD Simulator: S/N 292 | As-Rcvd | Test 2 | Test 3 | Set Point: 35.6° F | 95° F | 154.4° F |
| RTD Simulator: S/N 293 | As-Rcvd | Test 2 | Test 3 | Set Point: 35.6° F | 95° F | 154.4° F |
| RTD Simulator: S/N 294 | As-Rcvd | Test 2 | Test 3 | Set Point: 35.6° F | 95° F | 154.4° F |
| RTD Simulator: S/N 313 | As-Rcvd | Test 2 | Test 3 | Set Point: 35.6° F | 95° F | 154.4° F |
| RTD Simulator: S/N 314 | As-Rcvd | Test 2 | Test 3 | Set Point: 35.6° F | 95° F | 154.4° F |
| RTD Simulator: S/N 315 | As-Rcvd | Test 2 | Test 3 | Set Point: 35.6° F | 95° F | 154.4° F |
| RTD Simulator: S/N 316 | As-Rcvd | Test 2 | Test 3 | Set Point: 35.6° F | 95° F | 154.4° F |
| RTD Simulator: S/N 317 | As-Rcvd | Test 2 | Test 3 | Set Point: 35.6° F | 95° F | 154.4° F |
| RTD Simulator: S/N 318 | As-Rcvd | Test 2 | Test 3 | Set Point: 35.6° F | 95° F | 154.4° F |

| RTD Simulator Temperature Equivalent Set Point | Test Meter | Difference | Test Meter | Difference | Test Meter | Difference |
|---|---|---|---|---|---|---|
| 35.60 | 35.6 | 0 | 35.6 | 0 | | |
| 95.00 | 95.0 | 0 | 95.1 | .1 | NA | |
| 154.40 | 154.6 | .2 | 154.6 | .2 | | |

NOTES:

The enclosed ADM Calibration Standards for Pressure and Temperature form(s) is/are an integral part of this calibration and must remain with this Certificate of Calibration. Note: There may be more than one such form included that pertains to this calibration.

Shortridge Instruments, Inc.
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## Shortridge Instruments, Inc. AirData Multimeter Calibration Equipment

Order Number: R193022 Serial Number: M00037 Test Type: Initial As-Received Final

### ABSOLUTE PRESSURE STANDARDS

| | | | | | | |
|---|---|---|---|---|---|---|
| ADM #02-R | S/N: 41741/42451 | Heise Model: PPM-2 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 04/30/19 | Due Date: 04/2020 |
| ADM #04-R | S/N: 41743/42453 | Heise Model: PPM-2 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 11/28/18 | Due Date: 11/2019 |
| ADM #06-R | S/N: 41742/42452-1 | Heise Model: PPM-2 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 08/21/19 | Due Date: 08/2020 |
| ADM #08-R | S/N: 42186/43328 | Heise Model: PPM-2 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 03/22/19 | Due Date: 03/2020 |
| ADM #10-R | S/N: 42203/43352 | Heise Model: PPM-2 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 01/21/19 | Due Date: 01/2020 |
| ADM #12A-R | S/N: 45605/48491 | Heise Model: PPM-2 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 07/16/19 | Due Date: 07/2020 |
| ADM #14-R | S/N: 43412/45043-2 | Heise Model: PPM-2 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 10/07/19 | Due Date: 09/2020 |
| ADM #16-R | S/N: 43413/45044 | Heise Model: PPM-2 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 02/20/19 | Due Date: 02/2020 |
| ADM #18-R | S/N: 44581/46845 | Heise Model: PPM-2 | Mfgd & Calibrated by Ashcroft, Inc. | | Calibration Date: 05/17/19 | Due Date: 05/2020 |
| ADM #20-R | S/N: 44582/46847 | Heise Model: PPM-2 | Mfgd & Calibrated by Ashcroft, Inc. | | Calibration Date: 06/20/19 | Due Date: 06/2020 |

#02-R, 04-R, 06-R, 08-R, 10-R, 12A-R, 14-R, 16-R Rated Accuracy: 0.05% fs (0.0305 in Hg) Range: 0-30 psia Resolution: 0.01 Uncertainty: < 0.0358

#18-R, 20-R Rated Accuracy: 0.05% fs (0.0305 in Hg) Range: 0-60 in Hg Resolution: 0.001 Uncertainty: < 0.0358

### DIFFERENTIAL PRESSURE STANDARDS

| | | | | | | |
|---|---|---|---|---|---|---|
| ADM #01-L | S/N: 41739/42449 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 05/01/19 | Due Date: 04/2020 |
| ADM #01-R | S/N: 41739/42446 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 05/01/19 | Due Date: 04/2020 |
| ADM #02-L | S/N: 41741/42454 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 05/01/19 | Due Date: 04/2020 |
| ADM #03A-L | S/N: 45570/48461 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 11/28/18 | Due Date: 11/2019 |
| ADM #03A-R | S/N: 45570/48460 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 11/28/18 | Due Date: 11/2019 |
| ADM #04-L | S/N: 41743/42456 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 11/28/18 | Due Date: 11/2019 |
| ADM #05-L | S/N: 41740/42450 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 08/26/19 | Due Date: 08/2020 |
| ADM #05-R | S/N: 41740/42447 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 08/26/19 | Due Date: 08/2020 |
| ADM #06-L | S/N: 41742/42455 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 08/26/19 | Due Date: 08/2020 |
| ADM #07-L | S/N: 42185/42186 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 03/26/19 | Due Date: 03/2020 |
| ADM #07-R | S/N: 42185/43326 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 03/26/19 | Due Date: 03/2020 |
| ADM #08-L | S/N: 42186/43329 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 03/25/19 | Due Date: 03/2020 |
| ADM #09-L | S/N: 42202/43351 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 01/23/19 | Due Date: 01/2020 |
| ADM #09-R | S/N: 42202/43350 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 01/23/19 | Due Date: 01/2020 |
| ADM #10-L | S/N: 42203/43353 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 01/23/19 | Due Date: 01/2020 |
| ADM #11-L | S/N: 43165/44551-1 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 07/15/19 | Due Date: 07/2020 |
| ADM #11-R | S/N: 43165/44730 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 07/15/19 | Due Date: 07/2020 |
| ADM #12A-L | S/N: 45605/48490 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 07/16/19 | Due Date: 07/2020 |
| ADM #13-L | S/N: 43415/45041 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 09/19/19 | Due Date: 09/2020 |
| ADM #13-R | S/N: 43415/45039 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 09/19/19 | Due Date: 09/2020 |
| ADM #14-L | S/N: 43412/45045 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 09/19/19 | Due Date: 09/2020 |
| ADM #15-L | S/N: 43416/45042 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 02/22/19 | Due Date: 02/2020 |
| ADM #15-R | S/N: 43416/45040 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 02/22/19 | Due Date: 02/2020 |
| ADM #16-L | S/N: 43413/45046 | Heise Model: PPM-1 | Mfgd by Dresser Industries | Calibrated by Ashcroft | Calibration Date: 02/21/19 | Due Date: 02/2020 |
| ADM #17-L | S/N: 44579/46842 | Heise Model: PPM-1 | Mfgd & Calibrated by Ashcroft, Inc. | | Calibration Date: 05/16/19 | Due Date: 05/2020 |
| ADM #17-R | S/N: 44579/46841 | Heise Model: PPM-1 | Mfgd & Calibrated by Ashcroft, Inc. | | Calibration Date: 05/21/19 | Due Date: 05/2020 |
| ADM #18-L | S/N: 44581/46846 | Heise Model: PPM-1 | Mfgd & Calibrated by Ashcroft, Inc. | | Calibration Date: 05/16/19 | Due Date: 05/2020 |
| ADM #19-L | S/N: 44580/46844 | Heise Model: PPM-1 | Mfgd & Calibrated by Ashcroft, Inc. | | Calibration Date: 07/15/19 | Due Date: 06/2020 |
| ADM #19-R | S/N: 44580/46843 | Heise Model: PPM-1 | Mfgd & Calibrated by Ashcroft, Inc. | | Calibration Date: 07/15/19 | Due Date: 06/2020 |
| ADM #20-L | S/N: 44582/46848 | Heise Model: PPM-1 | Mfgd & Calibrated by Ashcroft, Inc. | | Calibration Date: 06/18/19 | Due Date: 06/2020 |

#01-L, 03A-L, 05-L, 07-L, 09-L, 11-L, 13-L, 15-L, 17-L, 19-L Rated Accuracy: > 0.07% fs (0.000175 in wc) Range: 0.0-0.25 in wc Res.: 0.00001 Uncertainty: < 0.00035

#01-R, 03A-R, 05-R, 07-R, 09-R, 11-R, 13-R, 15-R, 17-R, 19-R Rated Accuracy: > 0.06% fs ( 0.003 in wc) Range: 0.0-5.0 in wc Res.: 0.0001 Uncertainty: < 0.00348

#02-L, 04-L, 06-L, 08-L, 10-L, 12A-L, 14-L, 16-L, 18-L, 20-L Rated Accuracy: > 0.06% fs (0.03 in wc) Range: 0.0-50.0 in wc Res.: 0.001 Uncertainty: < 0.0346

Shortridge Instruments, Inc.
7855 East Redfield Road Scottsdale, Arizona 85260
(480) 991-6744 • Fax (480) 443-1267 • www.shortridge.com

## Shortridge Instruments, Inc. AirData Multimeter Calibration Equipment

Customer Order Number, Meter Serial Number, and Test Type are referenced on page 1

### LOW VELOCITY EQUIVALENT CONFIRMATION STANDARDS

| | | | | |
|---|---|---|---|---|
| Vel Eqv Transfer Standard S/N: M02009 | Model ADM-870C | Mfgd & Calibrated by Shortridge Instruments, Inc. | Calibration Date: 12/07/18 | Due Date: 12/2019 |
| Vel Eqv Transfer Standard S/N: M02903 | Model ADM-870C | Mfgd & Calibrated by Shortridge Instruments, Inc. | Calibration Date: 12/07/18 | Due Date: 12/2019 |
| Vel Eqv Transfer Standard S/N: M10839 | Model ADM-870C | Mfgd & Calibrated by Shortridge Instruments, Inc. | Calibration Date: 12/07/18 | Due Date: 12/2019 |
| Vel Eqv Transfer Standard S/N: M10840 | Model ADM-870C | Mfgd & Calibrated by Shortridge Instruments, Inc. | Calibration Date: 12/07/18 | Due Date: 12/2019 |
| Vel Eqv Transfer Standard S/N: M10897 | Model ADM-870C | Mfg'd & Calibrated by Shortridge Instruments, Inc. | Calibration Date: 01/17/19 | Due Date: 01/2020 |
| Vel Eqv Transfer Standard S/N: M10901 | Model ADM-870C | Mfg'd & Calibrated by Shortridge Instruments, Inc. | Calibration Date: 12/07/18 | Due Date: 12/2019 |
| Vel Eqv Transfer Standard S/N: M13492 | Model ADM-870C | Mfg'd & Calibrated by Shortridge Instruments, Inc. | Calibration Date: 08/08/19 | Due Date: 08/2020 |
| Vel Eqv Transfer Standard S/N: M19325 | Model ADM-870C | Mfgd & Calibrated by Shortridge Instruments, Inc. | Calibration Date: 06/21/19 | Due Date: 06/2020 |

Rated Accuracy: Velocity ± 1.5 % ± 3.5 fpm  Range: 100-5000 fpm  Resolution: 0.1  Uncertainty: <5.00 fpm at 100 fpm; <7.50 fpm at 500 fpm

### TEMPERATURE STANDARDS

| | | | | | |
|---|---|---|---|---|---|
| RTD Simulator S/N: 249 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 03/16/16 | Due Date: 03/2020 |
| RTD Simulator S/N: 250 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 03/16/16 | Due Date: 03/2020 |
| RTD Simulator S/N: 253 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 03/16/16 | Due Date: 03/2020 |
| RTD Simulator S/N: 254 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 04/07/16 | Due Date: 04/2020 |
| RTD Simulator S/N: 256 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 04/07/16 | Due Date: 04/2020 |
| RTD Simulator S/N: 257 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 04/07/16 | Due Date: 04/2020 |
| RTD Simulator S/N: 292 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 12/21/15 | Due Date: 12/2019 |
| RTD Simulator S/N: 293 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 12/21/15 | Due Date: 12/2019 |
| RTD Simulator S/N: 294 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 12/21/15 | Due Date: 12/2019 |
| RTD Simulator S/N: 313 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 03/16/18 | Due Date: 03/2022 |
| RTD Simulator S/N: 314 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 03/16/18 | Due Date: 03/2022 |
| RTD Simulator S/N: 315 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 03/16/18 | Due Date: 03/2022 |
| RTD Simulator S/N: 316 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 04/16/18 | Due Date: 04/2022 |
| RTD Simulator S/N: 317 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 04/16/18 | Due Date: 04/2022 |
| RTD Simulator S/N: 318 | Model RTD-1000/500 | Mfgd by General Resistance | Calibrated by IET Labs | Calibration Date: 04/16/18 | Due Date: 04/2022 |

Rated Accuracy: 0.025% of setting  Range: 100.00 Ω to 11111.10 Ω  Resolution: 0.01 Ω  Uncertainty: ≤ 32 ppm

| | | | | |
|---|---|---|---|---|
| Thermometer #1 S/N 8A089/Thermistor S/N A410660 | Model 1504/5610 | Mfgd by Hart Scientific Calibrated by Fluke | Calibration Date: 08/27/19 | Due Date: 08/2021 |
| Thermometer #2 S/N 8B104/Thermistor S/N 871507 | Model 1504/5610 | Mfgd by Hart Scientific Calibrated by Fluke | Calibration Date: 11/07/18 | Due Date: 10/2020 |
| Thermometer #5 S/N B11780/Thermistor S/N B10505 | Model 1504/5610 | Mfgd by Hart Scientific Calibrated by Fluke | Calibration Date: 03/07/19 | Due Date: 03/2021 |
| Thermometer #6 S/N B11782/Thermistor S/N B10509 | Model 1504/5610 | Mfgd by Hart Scientific Calibrated by Fluke | Calibration Date: 02/20/18 | Due Date: 02/2020 |
| Thermometer #7 S/N B49938/Thermistor S/N B482202 | Model 1504/5610 | Mfgd and Calibrated by Fluke | Calibration Date: 09/26/19 | Due Date: 09/2021 |

Rated Accuracy(combined): 0.0324° F  Range: 32° F to 176° F  Resolution: 0.001° F  Combined Uncertainty with Baths: ≤ 0.040° F

| | | | | |
|---|---|---|---|---|
| Temp Transfer Standard S/N M00136 | Model ADM-870 | Mfgd & Calibrated by Shortridge Instruments, Inc. | Calibration Date: 10/02/19 | Due Date: 10/2020 |
| Temp Transfer Standard S/N M96100 | Model ADM-870 | Mfgd & Calibrated by Shortridge Instruments, Inc. | Calibration Date: 03/07/19 | Due Date: 03/2020 |

Rated Accuracy: 0.03° F  Range: 33° F to 158° F  Resolution: 0.01° F  Uncertainty: < 0.023° F

Total combined Uncertainty for MultiTemp and TemProbe testing : ≤ 0.046° F

This form must remain with the Certificate of Calibration corresponding to the Customer Order Number and Meter Serial Number referenced on page 1.

Shortridge Instruments, Inc.
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(480) 991-6744 • Fax (480) 443-1267 • www.shortridge.com

## 1.4 MULTIFUNZIONE

CARLESI
STRUMENTI DI MISURA

assicontrol
Laboratorio metrologico

*Laboratorio Metrologico*

**CERTIFICATO DI TARATURA**

**N° 3772/20**

Pagina 1 di 6

Destinatario: **GALVANI S.r.l. - San Giovanni Lupatoto (VR)**

Oggetto della taratura: **Strumento multifunzione**
Metodo: verifica per comparazione su 5 punti

| | |
|---|---|
| Modello: **AMI 300** | Matricola: 1 **(11049460)** |
| Ingresso: **sonde** | |
| Sonda tipo: **ventola** HE100 RF | Matricola: **1104 1363** |
| Sonda tipo: **Filo caldo FCT 900** | Matricola: **1104 3208** |
| Sonda tipo: **pressione diff. MDP 2500** | Matricola: **1104 2900** |
| Sonda tipo: **termoigrom.** HR110 RF | Matricola: **1104 1370** |
| Sonda tipo: **superfici SKCL 150** | Matricola: **1605011** |

Costruttore: Kimo

*Procedura di verifica*
*La procedura utilizzata per effettuare la verifica prevede l'impiego di strumenti e/o campioni primari certificati da centri Accredia o equivalenti riconosciuti a livello internazionale (ove disponibili).*
*Le verifiche vengono effettuate per confronto diretto o indiretto tra lo strumento/campione in taratura e lo strumento/campione di riferimento primario con l'utilizzo delle attrezzature di supporto.*
*Si predispone l'oggetto della verifica e gli strumenti/campioni di confronto pronti ad effettuare misurazioni lasciandoli per circa due ore nella camera di prova a temperatura ed umidità controllate. Si effettuano una serie di misure significative annotandole sulla scheda tecnica interna. Si calcola la media aritmetica degli scostamenti rilevati. Si verifica poi la ripetibilità di lettura. Si determina quindi l'incertezza di misura derivante dagli scostamenti rilevati, dalla ripetibilità di lettura, dall'incertezza degli strumenti e/o campioni utilizzati per la prova, da deriva termica, rumore, ove applicabili. Si determina poi l'esito della verifica o la conformità alla normativa di riferimento, se previsti. Alla fine della compilazione della scheda tecnica interna, può essere redatto il documento di verifica. Si appone infine sullo strumento/campione l'etichetta di avvenuta certificazione.*

Procedure utilizzate per la verifica: CP023 – CP06 – CP03 - CP017

Data: 12-05-20

Intervallo di verifica: 12 mesi
Ente certificatore: Assicontrol

Il responsabile di laboratorio: C. Alborghetti firma _____

ASSICONTROL CENTRO TARATURA ISO 9001

| | | |
|---|---|---|
| Registro di laboratorio CERT23 | Documento N° 58/10 del 20-10-98 | Rev. 1.00 |



**CARLESI COMMERCIALE STRUMENTI**
Sede Operativa: Via San Morese 9, 50019 Sesto Fiorentino (FI) – P.I.: 01941160978 C.F.: CRLCDL57R01G999B
Tel. 055/420.48.71 Fax. 055/74.72.013
www.carlesistrumenti.eu info@carlesistrumenti.eu

Verifica rilevazioni strumento multifunzione tipo: **AMI 300** matricola: **1 (11049460)**
Sonda tipo: **ventola HE100 RF** Matricola: **1104 1363**
Campo di misura: 0,3 – 35 m/s ... -20 +80°C
Risoluzione: 0,01 m/s da 0,3 a 2.99 m/s poi 0,1 m/s ....0,1°c

Procedura: CP023

La catena di riferibilità ha inizio con i seguenti campioni primari :

[x] Anemometro HD2303.0 + AP472S2 matricola 07006077 + 09003855 dotato di certificato Accredia 19002544

[x] Termometro digitale HD9219 matricola 003ASC+03000092 corredato di certificato Accredia C1181D6000

Strumentazione ausiliaria: mini galleria del vento WT1 matricola 44

**Verifica velocità**

| Punto | valore nominale (m/s) | valore letto (m/s) | scostamento dal valore nominale (m/s) |
|---|---|---|---|
| 1 | 0,30 | 0,33 | 0,03 |
| 2 | 1,00 | 1,12 | 0,12 |
| 3 | 5,00 | 5,2 | 0,16 |
| 4 | 10,00 | 10,4 | 0,4 |
| 5 | 20,00 | 20,7 | 0,7 |
| | Scostamento medio dal valore nominale: **0,28 (m/s)** | | |
| | Incertezza di misura: < + **0,25 (m/s)** | | |

**Verifica temperatura**

| Punto | valore nominale (°C) | valore letto (°C) | scostamento dal valore nominale (°C) |
|---|---|---|---|
| 1 | 10,0 | 10,2 | 0,2 |
| 2 | 25,0 | 25,5 | 0,5 |
| 3 | 50,0 | 50,8 | 0,8 |
| | Scostamento medio dal valore nominale: **0,50 (°C)** | | |
| | Incertezza di misura: < ± **0,45 (°C)** | | |

Note: I valori letti sono la media di più misurazioni.

Le incertezze di misura dichiarate in questo documento, associate alle letture effettuate, sono espresse come due volte lo scarto tipo corrispondente, nel caso di distribuzione normale, ad un livello di confidenza di circa 95%.

Le misure sono state effettuate nelle seguenti condizioni ambientali:
Temperatura: 23°C ± 1°C
Umidità: 50% u.r. ± 10% u.r.

Data delle prove: 12-05-20 Tecnico di laboratorio

*ASSICONTROL Divisione ASSISTENZA e TARATURE*

Verifica rilevazioni strumento multifunzione tipo: **AMI 300** matricola: **1 (11049460)**
Sonda tipo: **Filo caldo FCT 900** Matricola: **1104 3208**
Campo di misura: 0,15 – 30 m/s ... -20 +80°C
Risoluzione: 0,01 m/s da 0,3 a 2.99 m/s poi 0,1 m/s ....0,1°c

Procedura: CP023

La catena di riferibilità ha inizio con i seguenti campioni primari :

[x] Anemometro HD2303.0 + AP472S2 matricola 07006077 + 09003855 dotato di certificato Accredia 19002544

[x] Termometro digitale HD9219 matricola 003ASC+03000092 corredato di certificato Accredia C1181D6000

Strumentazione ausiliaria: mini galleria del vento WT1 matricola 44

**Verifica velocità**

| Punto | valore nominale (m/s) | valore letto (m/s) | scostamento dal valore nominale (m/s) |
|---|---|---|---|
| 1 | 0,15 | 0,20 | 0,05 |
| 2 | 1,00 | 1,15 | 0,15 |
| 3 | 5,00 | 5,3 | 0,3 |
| 4 | 10,00 | 10,5 | 0,5 |
| 5 | 20,00 | 20,8 | 0,8 |
| | Scostamento medio dal valore nominale: **0,36 (m/s)** | | |
| | Incertezza di misura: < + **0,32 (m/s)** | | |

**Verifica temperatura**

| Punto | valore nominale (°C) | valore letto (°C) | scostamento dal valore nominale (°C) |
|---|---|---|---|
| 1 | 10,0 | 9,9 | -0,1 |
| 2 | 25,0 | 25,4 | 0,4 |
| 3 | 50,0 | 50,6 | 0,6 |
| | Scostamento medio dal valore nominale: **0,30 (°C)** | | |
| | Incertezza di misura: < ± **0,27 (°C)** | | |

Note: I valori letti sono la media di più misurazioni.

Le incertezze di misura dichiarate in questo documento, associate alle letture effettuate, sono espresse come due volte lo scarto tipo corrispondente, nel caso di distribuzione normale, ad un livello di confidenza di circa 95%.

Le misure sono state effettuate nelle seguenti condizioni ambientali:
Temperatura: 23°C ± 1°C
Umidità: 50% u.r. ± 10% u.r.

Data delle prove: 12-05-20 Tecnico di laboratorio_____

*ASSICONTROL Divisione ASSISTENZA e TARATURE*

Verifica rilevazioni strumento multifunzione tipo: **AMI 300** matricola: **1 (11049460)**
Sonda tipo: **press.diff. MDP 2500** matricola: **1104 2900**
Procedura: CP017

Scala: 2500 Pa
Risoluzione: 1 Pa
Precisione: /
Indicatore: digitale
Tubo di Pitot: /

La catena di riferibilità ha inizio con i seguenti campioni primari per il confronto indiretto:
Manometro campione Lab DMM matricola 350-41283 con certificato Accredia nr. P0031 2020
Manometro campione 8205 matricola 9061889 con certificato Accredia nr. C1181C4820
Banco di controllo utilizzato per la verifica del campione tipo GPM/2 AEP matricola 35 (401).

| CICLO POSITIVO | | | |
|---|---|---|---|
| valore nominale (Pa) | valore letto (Pa) | errore (Pa) | eccedenti (Pa) |
| 100,7 | 100,0 | -0,7 | - |
| 501,4 | 500,0 | -1,4 | - |
| 1005,0 | 1000,0 | -5,0 | - |
| 1510,0 | 1500,0 | -10,0 | - |
| 2014,0 | 2000,0 | -14,0 | - |
| CICLO NEGATIVO | | | |
| valore nominale (Pa) | valore letto (Pa) | errore (Pa) | eccedenti (Pa) |
| 100,5 | 100,0 | -0,5 | - |
| 501,0 | 500,0 | -1,0 | - |
| 1004,0 | 1000,0 | -4,0 | - |
| 1510,0 | 1500,0 | -10,0 | - |
| 2013,0 | 2000,0 | -13,0 | - |
| Incertezza di misura: (% v.l.) < ± 0,47 | | | |

Note: misure effettuate dopo aver pulito i condotti interni del sensore di pressione

Considerazioni: /

Le incertezze di misura dichiarate in questo documento, associate alle letture effettuate, sono espresse come due volte lo scarto tipo corrispondente, nel caso di distribuzione normale, ad un livello di confidenza di circa 95%.

Le misure sono state effettuate nelle seguenti condizioni ambientali:
Temperatura: 23°C ± 1°C
Umidità: 50% u.r. ± 10% u.r.

Data delle prove: 12-05-20 Tecnico di laboratorio

*ASSICONTROL Divisione ASSISTENZA e TARATURE*

Verifica termoigrometro per comparazione con campioni primari
Procedura: CP06 Strumento tipo: **AMI 300** matricola: **1 (11049460)**
Sonda tipo: **termoigrom. HR110 RF** Matricola: **1104 1370**
Campo di misura: 3-98% -10 +50°C
Metodo di rilevazione umidità: sensore capacitivo

**UMIDITA'**

La catena di riferibilità ha inizio con i seguenti campioni primari:
Igrometro HD4901T matricola 11005609 corredato di certificato ACCREDIA 0069 19 UR

| Punto | valore nominale (%RH) | valore letto (%RH) | scostamento dal valore nominale (%RH) |
|---|---|---|---|
| 1 | 15,0 | 15,6 | 0,6 |
| 2 | 50,0 | 51,2 | 1,2 |
| 3 | 85,0 | 86,7 | 1,7 |
| | Scostamento medio dal valore nominale: **1,17 (% RH)** | | |
| | Incertezza di misura: < ± **1,05 (% RH)** | | |

**TEMPERATURA**

La catena di riferibilità ha inizio con i seguenti campioni primari:
Termometro digitale HD9219 matricola 003ASC+03000092 corredato di certificato ACCREDIA C1181D6000
Norma di riferimento IEC 584 con espressione della temperatura secondo STI 90

| Punto | valore nominale (°C) | valore letto (°C) | scostamento dal valore nominale (°C) |
|---|---|---|---|
| 1 | 0,0 | 0,2 | 0,2 |
| 2 | 25,0 | 25,4 | 0,4 |
| 3 | 50,0 | 50,7 | 0,7 |
| | Scostamento medio dal valore nominale: **0,43 (°C)** | | |
| | Incertezza di misura: < ± **0,39 (°C)** | | |

Strumentazione ausiliaria
Camera termoigrometrica M60-TB matricola 38 (M10110593)
Unità criogenica 9705 matricola 34 (811955)

Le incertezze di misura dichiarate in questo documento, associate alle letture effettuate, sono espresse come due volte lo scarto tipo corrispondente, nel caso di distribuzione normale, ad un livello di confidenza di circa 95%.

Le misure sono state effettuate nelle seguenti condizioni ambientali:
Temperatura: 23°C ± 1°C
Umidità: 50% u.r. ± 10% u.r.

Data delle prove: 12-05-20 Tecnico di laboratorio

*ASSICONTROL Divisione ASSISTENZA e TARATURE*

Verifica rilevazioni termometro digitale tipo: **AMI 300** matricola: **1 (11049460)**
Sonda tipo: **superfici SKCL 150** Matricola: **1605011**
Campo di misura: **-50 +250 °C**
Modulo tipo: MDP 2500 Matricola: **1104 2900**
Procedura: CP03

La catena di riferibilità ha inizio con i seguenti campioni primari :

Termometro digitale HD9219 matricola 003ASC+03000092 corredato di certificato ACCREDIA C1181D6000
Calibratore multifunzione Fluke 5500A matricola 6330020 corredato di certificato ACCREDIA 356433

Norma di riferimento IEC 584 con espressione della temperatura secondo STI 90

Strumentazione ausiliaria
Strumento calibratore Thermostatic calibrator Pyros matricola F087 00.
Strumento calibratore Thermostatic calibrator Pyros matricola C152 95.
Unità criogenica 9705 matricola 34 (811955)

**Risultati della verifica con sonda matricola 1605011**

| Punto | valore nominale (°C) | valore letto (°C) | scostamento dal valore nominale (°C) | Incertezza di misura (< ±°C) |
|---|---|---|---|---|
| 1 | -10,0 | -9,8 | 0,2 | 0,18 |
| 2 | 50,0 | 50,2 | 0,2 | 0,18 |
| 3 | 100,0 | 100,4 | 0,4 | 0,35 |
| 4 | 200,0 | 200,9 | 0,9 | 0,79 |
| 5 | 250,0 | 251,5 | 1,5 | 1,32 |
| | Scostamento medio dal valore nominale: | | 0,64 (°C) | |

Note: i valori letti sono la media di più misurazioni.

Considerazioni: /

Le incertezze di misura dichiarate in questo documento, associate alle letture effettuate, sono espresse come due volte lo scarto tipo corrispondente, nel caso di distribuzione normale, ad un livello di confidenza di circa 95%.

Le misure sono state effettuate nelle seguenti condizioni ambientali:
Temperatura: 23°C ± 1°C
Umidità: 50% u.r. ± 10% u.r.

Data delle prove: 12-05-20 Tecnico di laboratorio_____

*ASSICONTROL Divisione ASSISTENZA e TARATURE*

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