VAISALA


Certificate report no. H45-18090048

# CALIBRATION CERTIFICATE

| | |
|---|---|
| **Instrument** | Humidity and Temperature Probe HMP155 |
| **Serial number** | L0550630 |
| **Manufacturer** | Vaisala Oyj, Finland |
| **Calibration date** | 2nd March 2018 |

The above instrument was calibrated by comparing the readings of the instrument to working standards of the manufacturer. The reference humidity was calculated from dewpoint temperature and temperature readings with the exception of the driest condition that was measured as relative humidity. Dewpoint temperature was measured with a 373 LHX dewpoint meter. Temperature and relative humidity were measured with two factory working standards. At the time of shipment, the instrument described above met its operating specifications.

The 373 LHX dewpoint meter has been calibrated at The measurement results are traceable to the international system of units (SI) through national metrology institutes (NIST USA. MIKES Finland. Or equivalent) or ISO/IEC 17025 accredited calibration laboratories.. The temperature readings of the factory working standards have been calibrated at an ISO/IEC 17025 accredited calibration laboratory (FINAS), Vaisala Measurement Standards Laboratory (MSL) by using MSL working standards traceable to NIST. The relative humidity readings of the factory working standards have been calibrated at the Vaisala factory by using a 373 LHX dewpoint meter.

**Humidity calibration results**

| Reference humidity | Reference temperature | Observed humidity | Observed probe temperature | Additional probe temperature | Humidity difference | Permissible difference |
|---|---|---|---|---|---|---|
| %RH | °C | %RH | °C | °C | %RH | %RH |
| + 0.1 | + 22.02 | + 0.1 | - | + 22.03 | 0.0 | ±1.0 |
| + 12.5 | + 22.00 | + 12.5 | - | + 22.01 | 0.0 | ± 1.0 |
| + 33.3 | + 22.00 | + 33.1 | - | + 22.01 | - 0.2 | ± 1.0 |
| + 54.1 | + 22.02 | + 54.0 | - | + 22.02 | - 0.1 | ± 1.0 |
| + 74.8 | + 22.03 | + 74.8 | - | + 22.04 | 0.0 | ± 1.0 |
| + 94.6 | + 22.05 | + 94.6 | - | + 22.04 | 0.0 | ± 1.7 |

**Temperature calibration results**

| Reference temperature | Observed probe temperature | Temperature difference | | Additional probe temperature | Temperature difference | Permissible difference |
|---|---|---|---|---|---|---|
| °C | °C | °C | | °C | °C | °C |
| + 22.03 | - | - | | + 22.04 | + 0.01 | ± 0.10 |

**Equipment used in calibration**

| Type | Serial number | Calibration date | Certificate number |
|---|---|---|---|
| 373 LHX | 10-0117 | 2017-11-15 | M-17H038 |
| PTU303 / T | H0730006 | 2017-11-01 | K008-A02530 |
| HMT337 | D2350020 | 2017-11-06 | K008-A02527 |
| PTU303 / RH | H0730006 | 2018-02-05 | H45-18061001 |
| HMT337 / RH | D2350020 | 2018-02-05 | H45-18061002 |

**Uncertainties ( 95 % confidence level, k=2)**
Humidity ± 0.6%RH @ 0...40%RH, ± 1.0%RH @ 40...97%RH
Temperature ± 0.10 °C.
**Ambient conditions /** Humidity 30 ± 5%RH, Temperature 23 ± 1 °C, Pressure 1015 ± 1 hPa.

Technician



*Doc216127-C*

Vaisala Oyj | PO Box 26, FI-00421 Helsinki, Finland
Phone +358 9 894 91 | Fax +358 9 8949 2227
Email firstname.lastname@vaisala.com | www.vaisala.com
Domicile Vantaa, Finland | VAT FI01244162 | Business ID 0124416-2

VAISALA

**Service Report**
**Date**
05-MAR-2018



**Handled by**
Huttunen Antti (Antti)

**SR#**
1213131
**Buyer's reference**
4070199767

**Consignee**
STFC/Chilbolton Observatory
SFC -CHIL, Chillbolton Observatory
Drove Road, Chilbolton
STOCKBRIDGE
SO20 6BJ
United Kingdom

**Invoicing address(if not consignee)**
STFC/Chilbolton Observatory
STFC - Science & Technology Facilities
Council
C/O UK Shared Business Service Ltd, Polar
House,
North Start Avenue
SWINDON
SN2 1UH
United Kingdom

| Service Order | Description | Serial number - Lot Number | Quantity |
|---|---|---|---|
| 502094 | HMP155<br>Humidity + Temperature Probe<br><br>--REASON FOR RETURN--<br>Repair and standard calibration.<br>6 points, 0, 12.5, 33, 54, 75, 95% RH and temperature calibration at ambient (HMP155REP-RHCALFLEX).<br><br>--PROBLEM(S) FOUND --<br>No readings due to faulty composite sensor.<br>Filter dirty.<br><br>--ACTION(S) TAKEN--<br>Composite sensor and filter replaced.<br>Operation tested, adjustments made and unit was calibrated.<br>Calibration certificate number<br>H45-18090048 (after adjustment) issued. | L0550630 | 1 |