



Instrument tested : Vaisala Temperature and Humidity Probe HMP45D
Serial Number : V2320093
Submitted by : MetEngUK Stock
Location of test : MetEngUK laboratory - Manchester
Date of test : 08 July 2009

It is certified that the instruments have been calibrated using measuring equipment with current calibration, traceable to the realisation of units of measurement as made at the National Physical Laboratory, and the following test equipment:

- i. Michell Optidew Precision Dewpointmeter (s/n 129935)
- ii. Rense Instruments S-503 Humidity Calibrator (s/n 247604)
- iii. Precision Platinum Resistance Thermometer (s/n 129936)
- iv. TTI 1906 Computing Multimeter (s/n 178502)

- The uncertainty of measurement of the computing multimeter used is calculated not to exceed +/- (100 ppm +15uV) for the range applicable to this test.
- Optidew calibration traceability to National Physical Laboratory is over the range -90°C to +90°C; traceability to National Institute of Standards and Technology is over the range -75°C to +20°C. Uncertainty of measurement is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%.

Procedure:

All test and calibration equipment used in the procedure was put under power and allowed to stabilise in the laboratory environment for at least 60 minutes.

The instrument under test was inserted into the S-503 test chamber, the lower humidity reference point selected and the calibration initiated. After stabilisation, the observed humidity was recorded and, if a difference equal to or greater than 2% from the reference was observed, then the instrument under test was adjusted. The higher humidity reference was then selected and calibration initiated. After stabilisation, the observed humidity was recorded and, if a difference equal to or greater than 2% from the reference was observed, then the instrument under test was adjusted. The process was repeated until stable differences <2% were observed at both reference points.

Calibration results:

Reference Humidity (%)	Observed Humidity (%)	Difference (%)	Permissible Difference (%)
30.5	29.8	-0.70	± 2%
82.4	81.6	-0.80	± 2%
Reference Temp. (°C)	Observed Temp. (°C)	Difference (°C)	Permissible Difference (°C)
25.3	25.1	-0.20	± 0.2

Ambient conditions - Pressure: 1009.0 ± 1hPa; Temperature: 24.0 ± 1°C; Humidity: 46.0 ± 5%

Certificate Number: 617/2009
Date of Issue : 08 July 2009
Tested by : B J Mott **Signed:**