

CALIBRATION CERTIFICATE

Instrument HMP45A Humidity and temperature probe
Serial number D4530023
Manufacturer Vaisala Oyj, Finland
Calibration date 6th November 2008
Test procedure Doc210426-A

The above instrument was calibrated by comparing the relative humidity and temperature readings to two HMP233 factory working standards. At the time of shipment, the instrument described above met its operating specifications.

The relative humidity readings of the two HMP233 factory working standards have been calibrated at the Vaisala factory by using Hygro M-3 dewpoint meter. Hygro M-3 dewpoint meter has been calibrated at Vaisala Measurement Standards Laboratory (MSL) by using the MSL primary standard traceable to the NIST. The temperature readings of the two HMP233 factory working standards have been calibrated at MSL by using the MSL working standard traceable to the NIST. The temperature calibration at MSL has been accredited by the FINAS according to the ISO/IEC 17025.

Calibration results

Reference humidity* % RH	Observed humidity % RH	Difference %RH	Permissible difference %RH
0.4	1.3	* + 0.9	±2.0
48.5	48.4	- 0.1	±2.0
71.0	71.7	+ 0.7	± 2.0
Reference temperature* °C	Observed temperature °C	Difference °C	Permissible difference °C
+ 22.64	+22.55	- 0.09	± 0.2

*Average of two references.

Equipment used in calibration

Type	Serial number	Calibration date	Certificate number
HMP233 / RH	623075	2008-11-03	H09-08450013
HMP233 / RH	R2420022	2008-11-03	H09-08450014
Vaisala HMP233 / T	623075	2008-09-04	K008-R01938
Vaisala HMP233 / T	R2420022	2008-09-04	K008-R01917
HYGRO M-3	361095	2008-05-20	M-08H034
HP 34401A	US36034711	2008-04-14	K004-08S300

Uncertainties (95 % confidence level, k=2)

Humidity ±1.0%RH @ 0..15%RH, ±1.5%RH @ 15..78%RH

Temperature ± 0.13 °C

Ambient conditions / Humidity 26 ± 5%RH, Temperature 22 ± 1 °C, Pressure 1031 ± 1 hPa.

For Vaisala Oyj



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