

Certificate Number: HEL-C-170920025

Service Request Number: 823595
Customer: Alfred-Wegener-Institut
Address: Flughafen Bremen, Gebäude F, Raum E
Heinrich Fockestr. 9, Bremen 28199
DE
Manufacturer: Vaisala Oyj
Instrument: Humidity and Temperature Transmitter HMT333
Serial Number: L0830822
Calibration Date: 2017-02-24
Recalibration Date: 2018-02-24

Approved by:



Digitally signed by PENA
Date: 2017.02.28 10:39:58 +02:00
Reason: Calibration responsible
Location: Vaisala Oyj

Petri Salmi
Technician

Note(s):
Service report as an attachment

The humidity sensor of the instrument was calibrated by comparing the instrument's humidity reading to a generated reference humidity reading. The reference humidity reading was calculated based on two-pressure humidity generation principle, using the measurement results of saturator pressure and temperature and calibration chamber pressure and temperature. If the instrument has the chemical purge option, the purge function was run before As Found data was collected.

The temperature sensor(s) of the instrument was calibrated by comparing the instrument's temperature readings to a reference thermometer.

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95 %. The measurement results are traceable to the international system of units (SI) through national metrology institutes (NIST USA, MIKES Finland, or equivalent) or via ISO/IEC 17025 accredited calibration laboratories.

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As Left Results

Humidity calibration results

Reference Humidity [%RH]	Reference Temperature [°C]	Observed Humidity [%RH]	Observed Temperature [°C]	Humidity Error [%RH]	Acceptance Limit [%RH]	Pass/Fail
15.0	+21.78	14.7	+21.85	-0.3	±1.0	Pass
33.0	+21.78	32.7	+21.81	-0.3	±1.0	Pass
54.0	+21.78	53.8	+21.79	-0.2	±1.0	Pass
74.9	+21.78	74.9	+21.78	0.0	±1.0	Pass
94.5	+21.79	94.6	+21.79	+0.1	±1.7	Pass

Temperature calibration results

Reference Temperature [°C]	Observed Temperature [°C]	Error [°C]	Acceptance Limit [°C]	Pass/Fail
+21.78	+21.78	0.00	±0.20	Pass

Reference equipment used in calibration

Type	Instrument Number	Certificate Number	Calibration Date	Calibration Due Date
GE Drück DPS 823B	17179	K008-Z03047	2016-10-20	2017-04-30
AM1612	17587	Z03064	2016-10-24	2017-10-31
PTU307	16862	K008-Z02098	2016-07-04	2017-07-31
HMP307	17585	Z03062	2016-10-24	2017-10-31
PXI-4070	17584	Z03061	2016-10-20	2017-10-31

Calibration uncertainty (k=2, ~95 % confidence level):

Humidity ±0.5 %RH @ 0...40 %RH, ±0.8 %RH @ 40...95 %RH

Temperature ±0.10 °C

Ambient conditions:

Humidity [%RH]

11 ± 4

Temperature [°C]

23 ± 2

Pressure [hPa]

980 ± 20