

CALIBRATION CERTIFICATE

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Certificate Number: BOS182950003



Service Request Number: 532416
Customer: SAMPLE
Address: 10-D Gill St.
Woburn, MA 01801
USA

Manufacturer: Vaisala Oyj
Instrument: Humidity and Temperature Transmitter HMT333
Serial Number: F1340119
Calibration Date: 2018-07-20
Recalibration Date: 2019-07-20

Approved by:

Jennifer Clay
Service Manager, CRS

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. This instrument was calibrated in compliance with ISO/IEC 17025:2005

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As Found Results

Humidity calibration results

Reference Humidity [%RH]	Reference Temperature [°C]	Observed Humidity [%RH]	Observed Temperature [°C]	Humidity Error [%RH]	Specification [%RH]	Note(s):
15.0	+20.88	15.4	+20.88	+0.4	±1.0	-
33.0	+20.89	33.4	+20.89	+0.4	±1.0	-
54.1	+20.90	54.4	+20.89	+0.3	±1.0	-
75.3	+20.90	75.6	+20.89	+0.3	±1.0	-
94.7	+20.91	95.8	+20.89	+1.1	±1.7	-

Temperature calibration results

Reference Temperature [°C]	Observed Temperature [°C]	Error [°C]	Specification [°C]	Note(s):
+20.90	+20.89	-0.01	±0.20	-

Reference equipment used in calibration

Type	Instrument Number	Certificate Number	Calibration Date	Calibration Due Date
GE Druck DPS 823B	16738	180301-16738	2018-03-01	2018-09-30
Pt-100 sensor	17003	171214-HMP307PZ2-2-17003	2017-12-14	2018-12-31
PTU307	17043	180618-PTU307-L3941056	2018-06-18	2018-12-31
Pt-100 sensor	16997	171214-AM1612-14042	2017-12-14	2018-12-31
PXI-4070	17056	171214-PXI-4070-1A8DB03	2017-12-14	2018-12-31

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

Humidity ±0.6 %RH @ 0...40 %RH, ±0.8 %RH @ 40...95 %RH

Temperature ±0.10 °C

Ambient conditions:

Humidity [%RH]

35 ± 4

Temperature [°C]

23 ± 2

Pressure [hPa]

1014 ± 20

Any error greater than the specification is noted with *



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	+20.88	15.3	+20.88	+0.3	±1.0	Pass
33.0	+20.89	33.2	+20.89	+0.2	±1.0	Pass
54.1	+20.90	54.2	+20.89	+0.1	±1.0	Pass
75.3	+20.90	75.3	+20.90	0.0	±1.0	Pass
94.7	+20.91	95.5	+20.89	+0.8	±1.7	Pass

Temperature calibration results

Reference Temperature [°C]	Observed Temperature [°C]	Error [°C]	Acceptance Limit [°C]	Pass/Fail
+20.90	+20.90	0.00	±0.20	Pass

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