



# SOUTHWEST RESEARCH INSTITUTE®

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Calibration Laboratory  
Certificate #0972-01

## Certificate of Calibration

**Cost Center / Customer:** DIV20 / DON BANNON

**Mail Stop:** B51

**Manufacturer/Model:** VAISALA / HMP77B

**Description:** HUMIDITY/TEMPERATURE PROBE

**Serial Number:** B3140005

**Asset Number:** 012390

**Procedure:** TEMPERATURE, HUMIDITY, DEW-POINT - 3 APR 08

**Work Order:** 303098841

**Date Issued:** 28-Dec-2010

**Date Calibrated:** 28-Dec-2010

**\* Date Due :** 28-Dec-2011

**\*\* Results:** FOUND-LEFT

**Temperature:** 74.0 °F

**Humidity:** 39 %RH

**Barometer:** N/A

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 2005, ANSI/NCSL Z540-1-1994 and relevant requirements of the ISO 9000-2000 standard. This certificate shall not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. This certificate shall not be used to claim product endorsement by Southwest Research Institute, American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government. Results of this calibration relate only to the instrument described above at the time of calibration and does not imply any long term stability of the instrument.

\*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. \*\*Data type found in this certificate or attached measurement report must be interpreted as: Found-left - adjustment and/or repair was not performed, As-found - data is before unit is adjusted and/or repaired, As-left - data is after adjusted and/or repaired was performed. The customer has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance.

Measurement uncertainty calculated in accordance with the method described in the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM), for a confidence level of approximately 95 percent using a coverage factor of  $k=2$ .

**Remarks:** Calibrated as a system with Vaisala MI70 Readout S/N B3050048.

### Standards Used

<u>Asset #</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
006404	THUNDER SCIENTIFIC	2500	HUMIDITY GENERATOR	25-May-2010	25-May-2011
009414	HART SCIENTIFIC	1502A	TEMPERATURE READOUT	15-Nov-2010	15-May-2011
015895	HART SCIENTIFIC	5618B	RTD	15-Nov-2010	15-May-2011

Walt Hill

Laboratory Manager

Mark Romero

Metrology Technician

Southwest Research Institute  
Calibration Laboratory  
Measurement Report

Work Order:	303098841	Mfr.:	Vaisala	Technician:	Mark Romero
Asset No.:	012390	Model:	HMP77B	Type Data:	Found-left
Serial No.:	B3140005	Type:	Humidity/Temp Probe	Cal Date:	28-Dec-10
Remarks: Calibrated as a system with Vaisala MI70. Temperature limit increased to +/-1 °C per custodian.					

Function/Range	Test Point	TI Reading	Difference	± Limit	± Uncertainty	Result	% Limit
Temperature	°C	°C	°C	°C	°C		
at 20% RH	25.08	24.95	-0.13	1	0.18	Pass	13%
40% RH	25.09	25.00	-0.09			Pass	9%
60% RH	25.10	25.03	-0.07			Pass	7%
80% RH	25.12	25.06	-0.06			Pass	6%
	°C	°C	°C				
at 20% RH	48.50	48.30	-0.20			Pass	20%
40% RH	48.92	48.75	-0.17			Pass	17%
60% RH	49.20	48.94	-0.26			Pass	26%
80% RH	49.31	49.25	-0.06			Pass	6%
	°C	°C	°C				
at 20% RH	67.48	68.00	0.52			Pass	52%
40% RH	67.80	68.22	0.42			Pass	42%
60% RH	68.30	68.85	0.55			Pass	55%
80% RH	68.50	69.16	0.66			Pass	66%
Humidity	% RH	% RH	% RH	% RH	% RH		
at 25 °C	20.00	18.70	-1.30	2	0.69	Pass	65%
	40.00	38.89	-1.11			Pass	56%
	60.00	58.66	-1.34			Pass	67%
	80.00	78.65	-1.35			Pass	68%
at 50 °C	20.00	19.02	-0.98			Pass	49%
	40.00	39.16	-0.84			Pass	42%
	60.00	59.67	-0.33			Pass	17%
	80.00	79.16	-0.84			Pass	42%
at 70 °C	20.00	18.68	-1.32			Pass	66%
	40.00	39.99	-0.01			Pass	1%
	60.00	58.68	-1.32			Pass	66%
	80.00	78.70	-1.30			Pass	65%

END OF REPORT