VAISALA Certificate of Calibration

Certificate #:	210413-PTB330-F3610001
Calibration Date:	April 13, 2021
Type:	Vaisala Pressure Transmitter
Model #:	PTB330
Serial #:	F3610001
Case #:	196923

Customer:
US Dept of Commerce NOAA
NOAA Ship RONALD H. BROWN
8901 La Jolla Shores Drive
La Jolla, CA 92037

Condition: The instrument was operational upon receipt.

Action Taken: The instrument was adjusted and calibrated.

Due Date: * April 13, 2022

P Calibrated By:

Roun Roeun
Calibration Technician

Approved By:

The measurement results on the certificate are traceable to the SI via NIST or another National Metrology Institute. This certificate may only be reproduced in full, except with the prior approval of the laboratory. Vaisala is ISO 9001:2015 certified. Vaisala's calibration system complies with ANSI/NCSL Z540-1-1994.

Special Limitations: None.

*Any due date given is based on a customer provided calibration interval. A number of factors may cause drift prior to the due date. Monitor all devices and calibrate when measurement error is suspected.

Certificate printed April 13, 2021.

Vaisala Inc. | Boston Office
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Pressure Calibration

Procedure #: PI215589 Rev. B
Instrument Range: 500 to 1100 hPa
Lab Environment: Relative Humidity 34.3 %rh, Temperature 22.2 °C

As Found Data

Pressure					
Reference [hPa]	Reading [hPa]	Error [hPa]	Uncertainty [hPa]	Specification [hPa]	Note(s)
500.02	500.06	0.04	±0.07	±0.14	-
550.02	550.06	0.04	±0.07	±0.14	-
650.01	650.05	0.04	±0.07	±0.14	-
750.00	750.03	0.03	±0.07	±0.14	-
850.00	850.03	0.03	±0.07	±0.14	-
950.01	950.04	0.03	±0.07	±0.14	-
1000.00	1000.03	0.03	±0.07	±0.14	-
1050.01	1050.03	0.02	±0.07	±0.14	-
1099.99	1100.02	0.03	±0.07	±0.14	-

Any error greater than the specification is noted with *

As Left Data

Pressure					
Reference [hPa]	Reading [hPa]	Error [hPa]	Uncertainty [hPa]	Acceptance Limit [hPa]	Pass/Fail
500.03	500.03	0.00	±0.07	±0.05	PASS
550.01	550.01	0.00	±0.07	±0.05	PASS
650.00	650.00	0.00	±0.07	±0.05	PASS
750.01	750.01	0.00	±0.07	±0.05	PASS
850.00	850.00	0.00	±0.07	±0.05	PASS
950.01	950.01	0.00	±0.07	±0.05	PASS
1000.01	1000.01	0.00	±0.07	±0.05	PASS
1050.03	1050.02	-0.01	±0.07	±0.05	PASS
1100.04	1100.03	-0.01	±0.07	±0.05	PASS

Pass: Error within or equal to Acceptance Limit, Fail: Error outside Acceptance Limit

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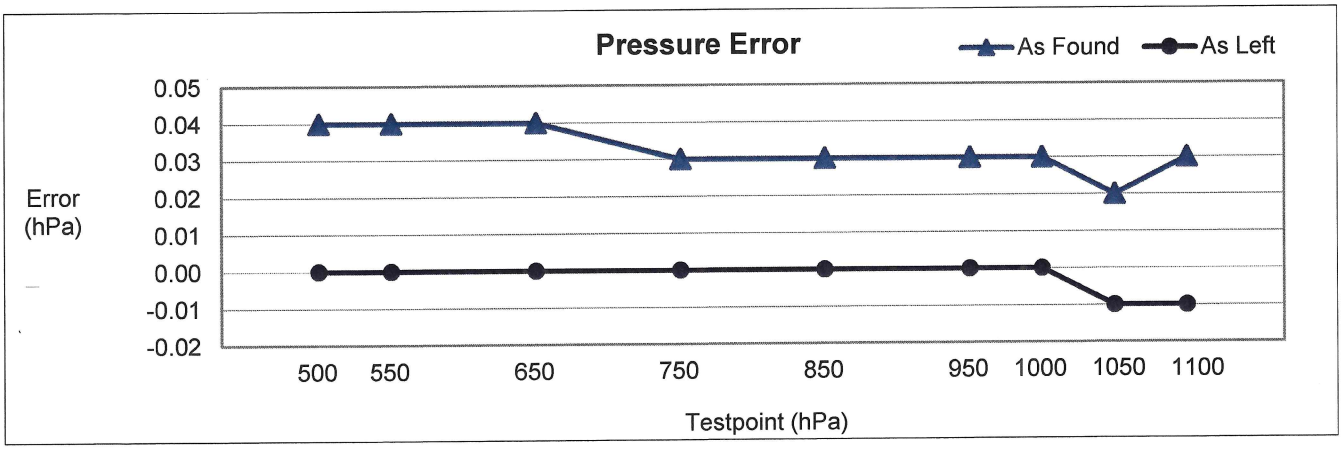
Pressure Calibration



Reference Standards and Measurement Equipment				
Model	**Serial Number**	**Asset Number**	**Calibration**	**Due Date**
Fluke PPC4 A100Kp	440	PA-13452	Dec. 18, 2020	Sep. 30, 2021

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Description
The calibration was performed in the Standard Laboratory of Vaisala, Inc. The instrument was first allowed to equilibrate to the laboratory environmental conditions for a period of at least 8 hours. The calibration laboratory is controlled at 22 °C ± 3 °C and 40 %rh ± 20 %rh.

Pressure Calibration: The instrument was allowed to warm up for at least 2 hours before the calibration. The instrument's input port was connected to the output of a Fluke PPC4 Pressure Controller/Calibrator and the connection was tested for leaks. The testpoints are measured from high to low then again from low to high. The instruments were allowed to stabilize for at least 2 minutes after each testpoint was reached. The reported readings are the average of the readings from the high to low cycle and the readings from the low to high cycle.

References
The Fluke PPC4 Pressure Controller/Calibrator digitally controls the pneumatic pressure output using solenoid valves and differential pressure regulators. It measures the pressure with a quartz reference pressure transducter (Q-RPT).

Statement of Conformity Decision Rule
The statement of conformity is based on simple acceptance, whether the calibration result is within or outside the manufacturer's specification/acceptance limits. The calibration uncertainty is not taken into account in the statement of conformity. The probability of accepting a non-conforming result or rejecting a conforming result can be as large as 50% with this acceptance rule when the calibration result is close to the acceptance limit.

Uncertainty
The reported expanded uncertainty of the measurement is stated as the standard uncertainty of the measurement multiplied by the coverage factor of k=2, which corresponds to a coverage probability of approximately 95%. The standard uncertainty of the measurement has been determined in accordance with the ISO Guide to the Expression of Uncertainty in Measurement.

The calibration uncertainty represents the situation at the time and conditions of calibration. When using the instrument at different conditions and at a different time the conditions and stability of the instrument shall be evaluated separately. The calibration results and the statement of conformity of specification/acceptance limit relate only to the calibrated instrument and the calibration points.

DOC228428 Rev. J

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