



CERTIFICATE OF NIST TRACEABLE CALIBRATION

Calibration Certificate No: 92435

Customer Information

Customer: Intertek
Address : 8431 Murphy Drive
Middleton WI 53562



Customer PO #: Verbal - Brian Brunson

Calibration Procedure Information

Procedure ID: GTP TMASS-LAM

Revision #: 11

Revision Date: 6/18/2019

Calibration Standards Information

<u>Graftel ID</u>	<u>Manufacturer</u>	<u>Model #</u>	<u>Description</u>	<u>CAL Due</u>
10062	Graftel	9202	5-Channel Temperature Sensor	8/6/2024
10074	Meriam	50MJ10-14	Laminar Flowmeter	11/21/2021
10075	Meriam	50MJ10-9	Laminar Flowmeter	11/26/2021
10128	Furness	FCO352	Diff Pressure	5/7/2022
60030	Paroscientific	760-100A	Pressure, 100 psia	5/20/2022
T1830482	Vaisala	HMW95D	RH/Temp. Logger	12/22/2021
1A01JMGKP36	Graftel	N/A	Digital Barometer	12/22/2021
50789	Paroscientific	760-100A	Pressure Gauge	8/17/2022

Sensor Information

Manufacturer: Sierra Description: Mass Flow Meter Method Used: Laminar
Model #: M50L-AL-DD-2-PV2-V1-5PC Rated Accuracy: ± 1 % of Full Scale Accuracy Specified By: Sierra
Instrument ID#: 1413 Range: 0 to 10 slpm Condition: Functional
Serial #: 189158

Comments: Calibration Date: 08/20/2021
Calibration Due: 02/20/2022

The calibrations within the certificate/report are traceable through NIST or another National Metrology Institute to the International System of Units (SI). The reported calibration uncertainty has a confidence level of 95% (k=2). A calibration uncertainty ratio of 4:1 was maintained unless required uncertainty is supported by analysis. Graftel Quality Assurance System complies with applicable requirements of ISO/IEC-17025-2017, ANSI/NCSL Z540-I-1994 and ISO 9001. All results contained within this certificate relate only to item(s) calibrated. This certificate shall not be reproduced except in full and with the written consent of Graftel. Acceptance Criteria per Simple Acceptance Rule: Measurement Uncertainty is not applied to the measured value when in/out of tolerance statement is made.

Performed By: L. Chan
Lap Chan
Calibration Technician

Date: 8/20/2021

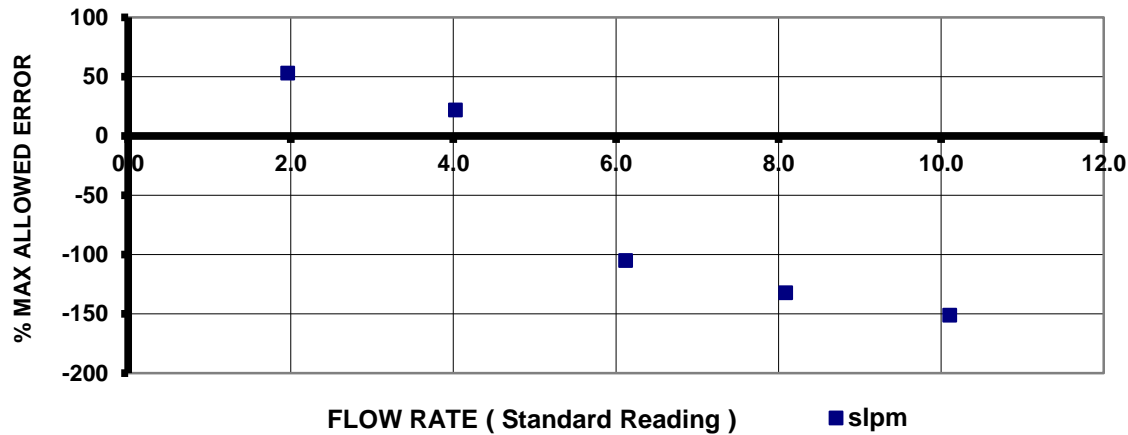
Approved By: Scott Pickett
Scott Pickett
Vice President, Lab Services

Date: 8/20/2021

ATTACHMENT TO CALIBRATION CERTIFICATE 92435
AS FOUND DATA
Page 2 of 3

Reading From Standard, slpm	Lower Limit of Meter Reading, slpm	Measured Reading From Meter, slpm	Upper Limit of Meter Reading, slpm	Error, slpm	Measurement Uncertainty (k=2) slpm	CMC (k=2) slpm	STATUS
1.964	1.864	2.017	2.064	0.053	0.010	0.010	Pass
4.026	3.926	4.048	4.126	0.022	0.020	0.020	Pass
6.118	6.018	6.013	6.218	-0.105	0.031	0.031	Fail
8.089	7.989	7.957	8.189	-0.132	0.040	0.040	Fail
10.104	10.004	9.953	10.204	-0.151	0.051	0.051	Fail

ERROR CHART (Inlet Pressure = 10 psig)



Instrument Specifications		
Meter's Calibrated Fluid:	Air	
Test Fluid:	Air	
Meter's Standard Pressure:	14.7	psia
Meter's Standard Temperature:	70	°F
Lower Range:	0	slpm
Upper Range:	10	slpm
Resolution:	0.001	
Rated Accuracy:	1.0	% of Full Scale
Laboratory Ambient Conditions		
Pressure:	14.36	psia
Humidity:	53.47	%RH
Temperature:	70.05	°F



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FLOW - TEMPERATURE - HUMIDITY - PRESSURE - DESIGN - CONSULTING - ENGINEERING

NIST Traceable Calibration Data Sheet

95 Chancellor Dr., Roselle, IL 60172

Phone: 847-364-2600

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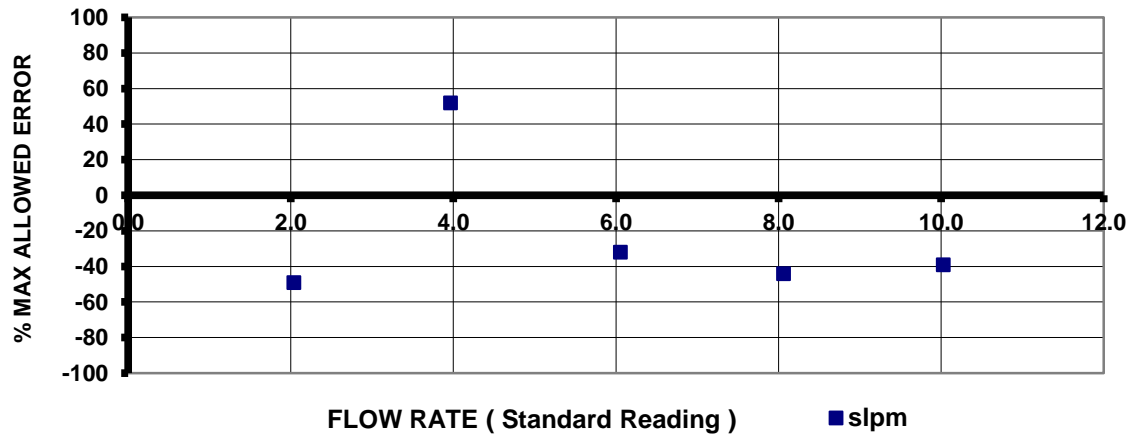
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AS LEFT DATA

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Reading From Standard, slpm	Lower Limit of Meter Reading, slpm	Measured Reading From Meter, slpm	Upper Limit of Meter Reading, slpm	Error, slpm	Measurement Uncertainty (k=2) slpm	CMC (k=2) slpm	STATUS
2.037	1.937	1.988	2.137	-0.049	0.010	0.010	Pass
3.964	3.864	4.016	4.064	0.052	0.020	0.020	Pass
6.053	5.953	6.021	6.153	-0.032	0.030	0.030	Pass
8.061	7.961	8.017	8.161	-0.044	0.040	0.040	Pass
10.026	9.926	9.987	10.126	-0.039	0.050	0.050	Pass

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Laboratory Ambient Conditions		
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Humidity:	53.61	%RH
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