



5475 Airport Boulevard, Boulder, Colorado 80301-2339  
 303.443.7100 1.800.238.1801 Fax: 303.546.7380  
 Customer Service Center 1.877.475.3317  
 Instrument Service and Support 1.800.557.6363

## Certificate of Calibration

Date: Nov-20-2017 16:33:23

Customer Name: Trace Analytics LLC RMA Number: WO268038

### Equipment

Instrument: LasairII-110  
 Serial Number: 89601 Calibration Due: Nov-20-2018

### Environmental

Temperature: 25.10 Deg C Relative Humidity: 12.10%

### Certification

*Particle Measuring Systems certifies that the instrument listed above meets or exceeds manufacturing specifications. It has been calibrated using equipment and/or standards whose accuracies are traceable to the National Institute of Standards and Technology (NIST), or have been derived from acceptable values of natural physical constants, or by the ratio type of self-calibration. This instrument was calibrated in accordance with the Particle Measuring Systems quality system documentation which meets ISO9001:2008 requirements. This certificate may not be reproduced, except in full, without written consent from Particle Measuring Systems.*

### Calibration Standards

Procedure Used: 2899K Program Used: 1000011894 Rev G

### Instrument Condition Received

In-Tolerance  Out-of-Tolerance  Operational Failure

### Particles Used

<u>Particle Size (micron)</u>	<u>Standard Deviation</u>	<u>Lot Number</u>	<u>Expiration Date</u>
0.1	0.024	151216	Dec-31-2017
0.152	0.005	172291	Feb-28-2018
0.203	0.0053	173938	Mar-31-2018
0.296	0.0053	171556	Jan-31-2018
0.508	0.0085	179559	Jul-31-2018
0.994	0.01	173939	Mar-31-2018
5.3	0.5	174486	Sep-30-2019

### Flow Meter Instrument

Serial Number: 0608010-H Calibration Due: Mar-21-2018

### Reference Instrument

Instrument: LasairII-110  
 Serial Number: 57734 Calibration Due: Nov-22-2017

### Performed by

Technician Name: Mai Tidwell

*Mai Tidwell*



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## Calibration Data Record

Date: Nov-20-2017 16:33:23

Customer Name: Trace Analytics LLC RMA Number: WO268038

### Equipment

Instrument: LasairII-110 Laser Serial Number: No Change  
 Serial Number: 89601 Calibration Due: Nov-20-2018

### Environmental

Temperature: 25.10 Deg C Relative Humidity: 12.10%

### Threshold Information

<u>Channel Size (micron)</u>	<u>Calibrated Threshold</u>
Ch1: 0.1	345
Ch2: 0.2	089
Ch3: 0.3	870
Ch4: 0.5	053
Ch5: 1	182
Ch6: 5	2993

### Calibration Test Information

<u>Test Type (@ micron)</u>	<u>Test Conditions</u>	<u>Specifications</u>	<u>Test Results</u>
CE(%) @ 0.1	Ratio: UUT/ABS	47.5% to 52.5%	20920 / 40158 = 52.09%
CE(%) @ 0.152	Ratio: UUT/ABS	90.0% to 110.0%	20338 / 19260 = 105.60%
Split @ 0.203	Ratio: CH1/CH2	0.9 to 1.1	05394 / 05541 = 0.9735
Split @ 0.296	Ratio: CH2/CH3	0.9 to 1.1	05403 / 05353 = 1.0093
Split @ 0.508	Ratio: CH3/CH4	0.9 to 1.1	05412 / 05426 = 0.9974
Split @ 0.994	Ratio: CH4/CH5	0.9 to 1.1	01628 / 01691 = 0.9627
Split @ 5.3	Ratio: CH5/CH6	0.9 to 1.1	01522 / 01505 = 1.0113
Zero Count	JIS B 9921 standards		0 Count(s) in 25.0 mins

### Reference Characteristics

CE(%) @ 0.1 51.00% CE(%) @ 0.152 102.70%

### General Information

Sensor Protocol: Ethernet Firmware Version: 2.2.2  
 Test Database Date: Jun-05-2013