

Certificate ID: **D1100230E**

Certificate of Calibration

Quality Calibrations, Inc.



102 E Bay Front Road
Deale, MD 20751
Phone: 877-747-3883

Device Details

Device ID: **H5**
Serial Number: D1100230E
Description: RAININ EDP3
Method: SINGLE CHANNEL
Test Plan: 10,000 HML
Operator: DEBRA NEILAN

Customer: SAMPLE ISO I SC
Contact: K V- oJ @=
Location: ON SITE ANY
Address: BUSINESS ANY ROAD
LAUREL, MD 20708

Environmental Factors

Temperature: 23.70 °C
Barometric Pressure: 29.85 inHg
Relative Humidity: 46.46 %
Liquid Density: 0.99737
Air Density: 0.00119
Z Factor: 1.00368

Calibration Date: **13-Jun-2016**
Calibration Type: **Pipette Calibration**

Status: **Passed**
Next Due: **31-Dec-2016**

Comment: NO ADJUSTMENT NECESSARY

Measurement Standards

Device ID	Description	Serial Number	Next Calibration
1114512406	METTLER AG 245	1114512406	31-Jul-2016
HTM210DN	HUMIDITY TEMPERATURE METER	110400365	10-Jul-2016
J37372-D	THERMOMETER	J37372	09-Jul-2017

As Found

Summary Statistics				Accuracy %		Precision %		Sample Volumes (µL)					
Volume	Mean	SD	Unc. +/-	Actual	Target	Actual	Target	Status	1	2	3	4	5
10000.0 uL	10039.95	4.242	3.794	0.400	1.200	0.042	0.800	Passed	10038.98	10034.29	10038.29	10043.16	10045.04
5000.0 uL	5019.64	3.945	3.528	0.393	2.400	0.079	1.600	Passed	5020.54	5018.38	5013.91	5024.75	5020.60
1000.0 uL	1004.67	2.909	2.606	0.467	12.000	0.290	8.000	Passed	1003.73	1003.64	1001.12	1006.00	1008.86

Statement of Traceability

This certificate has been issued in accordance with QCI SOP QACCRED and ISO 8655-2. This statement certifies that this calibration has been performed with instruments and standards traceable to NIST or equivalent National Metrology Institute. This certificate shall not be reproduced except in full, without written approval of the laboratory. These results relate only to item calibrated.



Measurement Uncertainties are determined using the factor of k=2 at a 95% confidence level.

ISO 17025:2005 Certified Certificate AC 1347

Completed by: _____

Date: June 13, 2016

Reviewed by: _____

Date: _____

Certificate ID: **2516179**

Certificate of Calibration

Quality Calibrations, Inc.



102 E Bay Front Road
Deale, MD 20751
Phone: 877-747-3883

Device Details

Device ID: FDA 311
Serial Number: 2516179
Description: Eppendorf Research Plus, 300uL, MC
Method: FDA Multi Channel
Test Plan: MFR EPPENDORF RESEARCH PLUS 30C
Operator: Judy Nissley

Customer: SAMPLE ISO I MC
Contact:
Location: ANY BUSINESS ANY
Address: ROAD LAUREL, MD 20708

Environmental Factors

Temperature: 20.60 °C
Barometric Pressure: 30.12 inHg
Relative Humidity: 44.3 %
Liquid Density: 0.99808
Air Density: 0.00121
Z Factor: 1.00299

Calibration Date: 20-May-2016
Calibration Type: Pipette Calibration

Status: Passed
Next Due: 30-Nov-2016

Comment:

Measurement Standards

Device ID	Description	Serial Number	Next Calibration
BALANCE	METTLER XS205DR	B130181039	31-Mar-2017
HUMIDITY / TEMP METER	HTM CENTER 315	080603474	08-Jul-2017
THERMOMETER	HB INSTRUMENT	K87177	08-Jul-2017

Maintenance

PM Service Replaced Friction Ring Replaced Piston Replaced Shaft Supplemental Parts

As Found

Summary Statistics				Accuracy %		Precision %		Status	Sample Volumes (µL)				
300.0 uL	Mean	SD	Unc. +/-	Actual	Target	Actual	Target		1	2	3	4	5
Ch 1	301.58	0.476	1.400	0.526	0.600	0.158	0.300	Passed	302.06	301.15	302.08	301.50	301.10
Ch 2	301.30	0.504	1.400	0.432	0.600	0.167	0.300	Passed	300.97	300.96	302.16	301.09	301.31
Ch 3	300.62	0.684	1.400	0.208	0.600	0.227	0.300	Passed	299.95	300.75	301.25	301.30	299.87
Ch 4	301.05	0.829	1.400	0.351	0.600	0.275	0.300	Passed	300.31	300.20	302.15	301.57	301.04
Ch 5	300.89	0.683	1.400	0.297	0.600	0.227	0.300	Passed	302.00	300.45	301.10	300.38	300.54
Ch 6	300.44	0.389	1.400	0.145	0.600	0.129	0.300	Passed	300.61	300.93	299.87	300.31	300.47
Ch 7	299.70	0.708	1.400	0.099	0.600	0.236	0.300	Passed	300.75	298.87	299.54	299.99	299.36
Ch 8	300.33	0.880	1.400	0.109	0.600	0.293	0.300	Passed	300.19	300.95	300.64	301.00	298.86
Ch 9	299.84	0.575	1.400	0.053	0.600	0.192	0.300	Passed	300.48	299.25	299.68	299.37	300.42
Ch 10	299.85	0.862	1.400	0.050	0.600	0.288	0.300	Passed	300.70	298.58	300.38	300.22	299.37
Ch 11	300.32	0.752	1.400	0.108	0.600	0.251	0.300	Passed	300.65	300.31	301.11	299.09	300.48
Ch 12	300.66	0.183	1.400	0.221	0.600	0.061	0.300	Passed	300.41	300.66	300.91	300.74	300.62
150.0 uL	Mean	SD	Unc. +/-	Actual	Target	Actual	Target	Status	1	2	3	4	5
Ch 1	149.84	0.526	0.790	0.106	1.000	0.351	0.500	Passed	149.48	149.40	149.55	150.20	150.59
Ch 2	150.29	0.236	0.790	0.191	1.000	0.157	0.500	Passed	150.49	150.11	150.17	150.08	150.59
Ch 3	150.09	0.372	0.790	0.060	1.000	0.248	0.500	Passed	150.08	149.97	149.56	150.30	150.55
Ch 4	149.98	0.425	0.790	0.013	1.000	0.283	0.500	Passed	150.24	149.81	150.00	150.49	149.38
Ch 5	149.77	0.257	0.790	0.156	1.000	0.172	0.500	Passed	150.00	149.82	149.71	149.96	149.36
Ch 6	150.12	0.249	0.790	0.081	1.000	0.166	0.500	Passed	149.78	150.20	150.46	150.15	150.03
Ch 7	150.16	0.372	0.790	0.104	1.000	0.248	0.500	Passed	149.78	150.49	150.19	149.78	150.55
Ch 8	149.81	0.410	0.790	0.129	1.000	0.273	0.500	Passed	150.25	149.40	149.78	150.20	149.42
Ch 9	150.16	0.348	0.790	0.109	1.000	0.232	0.500	Passed	150.47	150.56	150.08	149.72	150.00
Ch 10	150.38	0.251	0.790	0.250	1.000	0.167	0.500	Passed	150.76	150.17	150.34	150.46	150.15
Ch 11	149.42	0.350	0.790	0.386	1.000	0.234	0.500	Passed	149.17	148.96	149.47	149.78	149.73
Ch 12	149.91	0.622	0.790	0.062	1.000	0.415	0.500	Passed	149.14	149.55	149.78	150.66	150.41

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ISO 17025:2005 Certified Certificate AC 1347

Completed by: _____

Date: May 20, 2016

Reviewed by: _____

Date: _____

As Found

Summary Statistics				Accuracy %		Precision %		Status	Sample Volumes (µL)				
30.0 uL	Mean	SD	Unc. +/-	Actual	Target	Actual	Target		1	2	3	4	5
Ch 1	29.28	0.167	0.276	2.416	3.000	0.571	1.000	Passed	29.04	29.30	29.42	29.44	29.19
Ch 2	30.20	0.111	0.258	0.673	3.000	0.366	1.000	Passed	30.11	30.21	30.35	30.08	30.26
Ch 3	29.90	0.208	0.301	0.350	3.000	0.696	1.000	Passed	30.13	29.67	29.73	30.09	29.86
Ch 4	29.89	0.235	0.316	0.376	3.000	0.785	1.000	Passed	29.71	29.60	30.14	29.90	30.09
Ch 5	29.63	0.265	0.334	1.232	3.000	0.896	1.000	Passed	30.04	29.44	29.38	29.73	29.57
Ch 6	29.86	0.243	0.321	0.470	3.000	0.815	1.000	Passed	29.61	29.70	30.13	29.75	30.11
Ch 7	29.88	0.146	0.270	0.396	3.000	0.489	1.000	Passed	29.86	29.78	30.10	29.94	29.73
Ch 8	29.81	0.225	0.310	0.637	3.000	0.756	1.000	Passed	29.96	30.00	29.44	29.77	29.88
Ch 9	30.06	0.175	0.285	0.212	3.000	0.582	1.000	Passed	30.14	30.19	30.15	30.08	29.76
Ch 10	29.79	0.244	0.321	0.711	3.000	0.818	1.000	Passed	29.84	30.10	29.77	29.81	29.42
Ch 11	30.00	0.186	0.289	0.002	3.000	0.619	1.000	Passed	29.78	29.99	30.17	30.20	29.86
Ch 12	29.89	0.185	0.288	0.363	3.000	0.618	1.000	Passed	29.71	29.80	30.11	30.07	29.77

SAMPLE

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Reviewed by: _____

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