



Calibration Certificate

CertificateNo.	340934	Sold To:	Raescal Business
Product	200-220M Definer 220 Medium Flow		442 Y Pichincha
Serial No.	147496		Sangolquí,
Cal. Date	17-Oct-2019		EC

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As Received Calibration Data

Technician	Lilianna Malinowska		Lab. Pressure	749 mmHg
			Lab. Temperature	22.1 °C

Instrument Reading	Lab Standard Reading	Deviation	Allowable Deviation	As Received
4785.67 sccm	4812.55 sccm	-0.56%	1.00%	In Tolerance
1083.59 sccm	1092.04 sccm	-0.77%	1.00%	In Tolerance
284.46 sccm	288.04 sccm	-1.24%	1.00%	Out of Tolerance
22.1 °C	22.5 °C	-	± 0.8°C	In Tolerance
749 mmHg	749 mmHg	-	± 3.5 mmHg	In Tolerance

Mesa Laboratories Standards Used

Description	Standard Serial Number	Calibration Date	Calibration Due Date
ML-800-24	100439	28-Mar-2019	27-Mar-2020
Precision Thermometer	A11146	15-Jul-2019	14-Jul-2020
Precision Barometer	2981392	19-Jul-2019	18-Jul-2020



MesaLabs



NVLAP Lab Code 200661-0
Calibration

As Shipped Calibration Data

Certificate No	340934	Lab. Pressure	735 mmHg	
Technician	Lilianna Malinowska	Lab. Temperature	22.1 °C	
Instrument Reading	Lab Standard Reading	Deviation	Allowable Deviation	As Shipped
4816.53 sccm	4816.49 sccm	0.0%	1.00%	In Tolerance
1093.22 sccm	1093.22 sccm	0.0%	1.00%	In Tolerance
287.27 sccm	288.52 sccm	-0.43%	1.00%	In Tolerance
22.5 °C	22.5 °C	-	± 0.8 °C	In Tolerance
734 mmHg	734 mmHg	-	± 3.5 mmHg	In Tolerance

Mesa Laboratories Standards Used

Description	Standard Serial Number	Calibration Date	Calibration Due Date
ML-800-24	117991	11-Feb-2019	11-Feb-2020
Precision Thermometer	358921	01-May-2019	30-Apr-2020
Precision Barometer	2981392	19-Jul-2019	18-Jul-2020

Calibration Notes

The expanded uncertainty of flow, temperature, and pressure measurements all have a coverage factor of $k = 2$ for a confidence interval of approximately 95%.

Flow testing is in accordance with our test number PR18-13 with an expanded uncertainty of 0.18% using high-purity nitrogen or filtered laboratory air. Flow readings in sccm are performed at STP of 21.1 °C and 760 mmHg.

Pressure testing is in accordance with our test number PR18-11 with an expanded uncertainty of 0.16 mmHg.

Temperature testing is in accordance with our test number PR18-12 with an expanded uncertainty of 0.04 °C.

Traceability to the International System of Units (SI) is verified by accreditation to ISO/IEC 17025 by NVLAP under NVLAP Code 200661-0.

Technician Notes:

By:

Mohammed Aziz
Director of Engineering
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