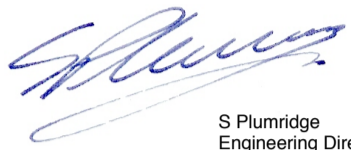


MicroBio Serial Number	010815140	PASS
Certificate Number	CC010815140 - 2	
		



MicroBio - Factory Calibration & Inspection Certificate

General Information

Product Owner	Majaseen LLC	Calibration Date	5 Apr 2018	Approved Signatory  S Plumridge Engineering Director	
Address	Ravila 14a-2019	Calibration Due	5 Apr 2019		
City	Tartu	Calibrated By	SP		
Post/Zip Code	50411	Distributor	-	Customer PO	-
Country	Estonia	Calibration Methods	P0001W002 P0001W008*	CO/RMA Number	RMA-00117
				SO/MO Number	SO-00137

Model / Configuration

Model	MB2-HiFlow	
Head	A/A 400 x 1.0mm (HiFlow Only)	
Plate Fitted	90 mm Petri dish	
Hardware/Firmware Ver.	2015	2.18
Total Volume (if known)	142208	
Total Samples (if known)	654	

Calibration Conditions

Parameter	Reference Conditions	Units
Allowed deviation	5%	±
T lab temperature	293.25	K
ρ lab air pressure	1010.2	mbar
T_n standard temperature	293.15	K
ρ_n standard air pressure	1013.25	mbar
K_n compensation factor	0.997	$\rho T_n / \rho_n T$

Visual inspection

Sampling head	OK
Battery box lid	OK
Battery contact springs	OK
Keypad surface / buttons	OK
Plate springs	OK
Head spring	OK
Enclosure	OK

AV2 Calibration System Details / Flow Conversion [Note 4]

Parameter	Value	Units
AV2 100 L/min set-point	2.05	m/s
AV2 180 L/min set-point	3.67	m/s
Q_s	180.00	L.min ⁻¹
V_a (AV2 @ Q_s)	3.67	m/s
K_{AV2}	49.05	L / ms.min
T	20.00	°C
ρ_n	1013.25	mbar
Serial Number	71341	
Calibration Date	26 Oct 2017	
Calibration Due Date	26 Oct 2018	
Certificate Number	CR1706	(MPB Ltd)
Accuracy	2%	±

Measurements

Laboratory Temperature (T) [Note 3]	20.1	°C
Air pressure (ρ) [Note 2]	1010.2	mbar
Parameter	Mean Air Velocity (m.s ⁻¹)	Flow (S L.min ⁻¹)
Target (Compensated for T & ρ)	3.658	179.4
Inspection Test	3.500	171.7
After adjustment	3.670	180.0

Notes / Recommendations

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Calibration Results (95% Confidence Interval)

	Inspection	After Adjustment
Target	179.40 L.min ⁻¹	179.40 L.min ⁻¹
Measured	171.66 L.min ⁻¹	180.00 L.min ⁻¹
Deviation	-4.51%	0.34%
Result	PASS	PASS

Note 1: P0001W002 amended by P0001W008 - See <https://www.cantiumscientific.com/support/mb1-and-mb2-calibration-procedure/>. (Available to registered service agents only or upon request)

Note 2: Greisinger GPB 3300 Digital Barometer

Note 3: Greisinger GTH 1170 Digital Precision Quick Response Thermometer + Type-K Thermocouple probe

Note 4: Airflow Development Limited AV2 air velocity meter + Cantium Scientific Limited air sampler calibration flow rig (see Note 1 - P0001W002)