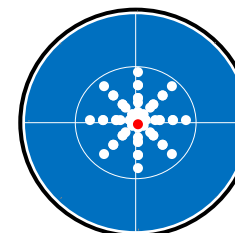


Calibration Certificate

PC10709

* As required by AS ISO/IEC 17025-2005, all measurements in this report are traceable to the International System of Units (Système international d'unités)

Calibration Data - 5 μL									
Measurement / Channel	#1	#2	#3	#4	#5	#6	#7	#8	
1	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	1
2	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05	2
3	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	3
4	5.02	5.02	5.02	5.02	5.02	5.02	5.02	5.02	4
5	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5
6	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	6
7	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	7
8	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	8
9	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	9
10	5.02	5.02	5.02	5.02	5.02	5.02	5.02	5.02	10
Mean Volume (μL)				4.99		Mean Volume (μL)			
Inaccuracy (%)				-0.20		1.13		Imprecision CV (%)	
Specification (\pm %)				5.00		2.00		Specification (\leq %)	
Status				PASS		PASS		Status	
Uncertainty (\pm μL)				0.13		Uncertainty (\pm μL)			




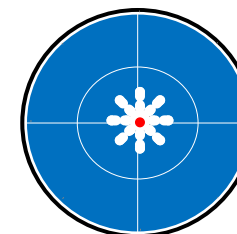
Pipette Data		Laboratory Conditions	
Pipette Manufacturer :	Thermo Scientific	Water Temperature (°C)	21.1
Pipette Type :	Finnpipette F1 ClipTip	Air Pressure (hPa)	998
Volume Range :	5-50 µL	Relative Humidity (%)	43
Serial Number :	JH90237	Density Correction (µL/mg)	1.0031
Customer ID:	BAL493	Calibrated with :	Sartorius ME235P auto door
Calibrated on :	5-July-2018	Calibrated by :	Mike Balac BSc (Hons) Chem

Calibration Certificate

PC10709

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Calibration Data - 25 μ L									
Measurement / Channel	#1	#2	#3	#4	#5	#6	#7	#8	
1	24.96	24.96	24.96	24.96	24.96	24.96	24.96	24.96	1
2	24.88	24.88	24.88	24.88	24.88	24.88	24.88	24.88	2
3	25.03	25.03	25.03	25.03	25.03	25.03	25.03	25.03	3
4	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	4
5	24.94	24.94	24.94	24.94	24.94	24.94	24.94	24.94	5
6	25.06	25.06	25.06	25.06	25.06	25.06	25.06	25.06	6
7	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	7
8	25.13	25.13	25.13	25.13	25.13	25.13	25.13	25.13	8
9	24.87	24.87	24.87	24.87	24.87	24.87	24.87	24.87	9
10	24.93	24.93	24.93	24.93	24.93	24.93	24.93	24.93	10
Mean Volume (μ L)				24.99		Mean Volume (μ L)			
Inaccuracy (%)				-0.04		0.35		Imprecision CV (%)	
Specification (\pm %)				2.00		1.00		Specification (\leq %)	
Status				PASS		PASS		Status	
Uncertainty (\pm μ L)				0.02		Uncertainty (\pm μ L)			
									



Pipette Data		Laboratory Conditions	
Pipette Manufacturer :	Thermo Scientific	Water Temperature (°C)	21.1
Pipette Type :	Finnpipette F1 ClipTip	Air Pressure (hPa)	998
Volume Range :	5-50 μ L	Relative Humidity (%)	43
Serial Number :	JH90237	Density Correction (μ L/mg)	1.0031
Customer ID:	BAL493	Calibrated with :	Sartorius ME235P auto door
Calibrated on :	5-July-2018	Calibrated by :	Mike Balac BSc (Hons) Chem

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PC10709

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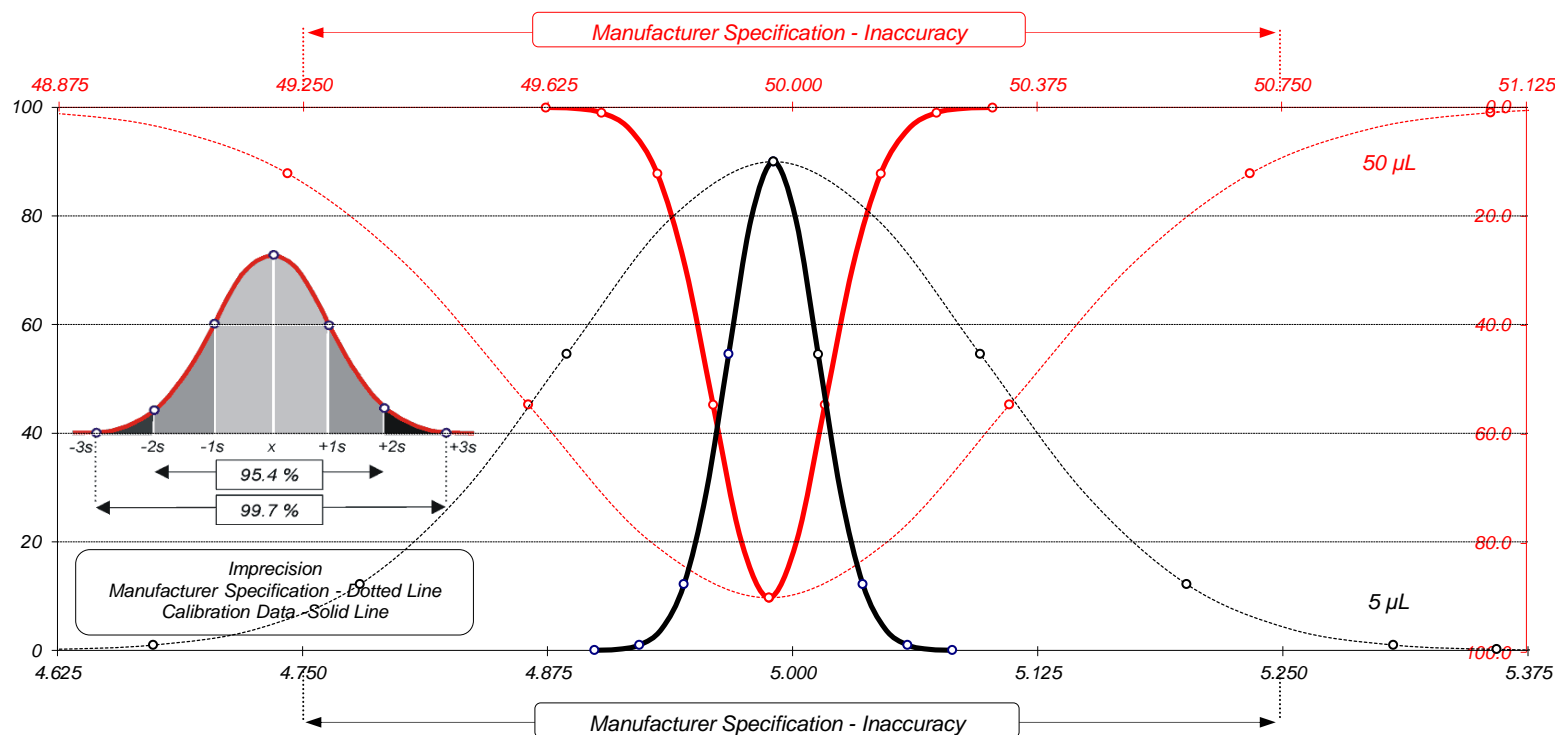
Calibration Data - 50 μL									
Measurement / Channel	#1	#2	#3	#4	#5	#6	#7	#8	
1	49.80	49.80	49.80	49.80	49.80	49.80	49.80	49.80	1
2	50.03	50.03	50.03	50.03	50.03	50.03	50.03	50.03	2
3	49.87	49.87	49.87	49.87	49.87	49.87	49.87	49.87	3
4	49.92	49.92	49.92	49.92	49.92	49.92	49.92	49.92	4
5	50.12	50.12	50.12	50.12	50.12	50.12	50.12	50.12	5
6	49.76	49.76	49.76	49.76	49.76	49.76	49.76	49.76	6
7	49.88	49.88	49.88	49.88	49.88	49.88	49.88	49.88	7
8	50.07	50.07	50.07	50.07	50.07	50.07	50.07	50.07	8
9	50.04	50.04	50.04	50.04	50.04	50.04	50.04	50.04	9
10	50.15	50.15	50.15	50.15	50.15	50.15	50.15	50.15	10
Mean Volume (μL)				49.96		Mean Volume (μL)			
Inaccuracy (%)				-0.07		0.26		Imprecision CV (%)	
Specification (\pm %)				1.50		0.70		Specification (\leq %)	
Status				PASS		PASS		Status	
Uncertainty (\pm μL)				0.28		Uncertainty (\pm μL)			



Pipette Data		Laboratory Conditions	
Pipette Manufacturer :	Thermo Scientific	Water Temperature (°C)	21.1
Pipette Type :	Finnpipette F1 ClipTip	Air Pressure (hPa)	998
Volume Range :	5-50 μ L	Relative Humidity (%)	43
Serial Number :	JH90237	Density Correction (μ L/mg)	1.0031
Customer ID:	BAL493	Calibrated with :	Sartorius ME235P auto door
Calibrated on :	5-July-2018	Calibrated by :	Mike Balac BSc (Hons) Chem

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PC10709



Customer Data		Uncertainty of Measurement	
In Use At:	Pipette Clinic Pty Ltd	Coverage factor at confidence level 95 %	k=2
	48-50 George Street	(Selected volume x)	Linearity (µL)
	Parramatta NSW 2150	Accuracy (µL)	y = 0.9994x - 0.0069
		Accuracy + Uncertainty (µL)	y1 = 1.0027x + 0.1098
Test Method:	AS 2162.2-1998, ISO-8655	Uncertainty (µL)	Ux = y1 - y