

Artel Operator Training Report

Pipette	R&D-02380
Model	Rainin Pipet-Lite LTS Pipette L-20XLS+
Serial Number	C1440980T
Nominal Volume	20.0000 µL
Owner	Axel Researcher (AxelR)
Location	R&D Laboratory

Result	PASSED
Completed	8/30/2016 12:19:25 PM
Training Plan	Monthly Assessment 2-20 uL, Version 1
Calibration ID	20160830120858R&D-02380

Volume	Mean	Uncertainty	Inaccuracy	Tolerance	Imprecision	Tolerance	Result
2.000 µL	2.0372 µL	0.33 %	1.86 %	7.50 %	0.37 %	2.00 %	PASSED
10.000 µL	9.9966 µL	0.13 %	-0.03 %	1.50 %	0.13 %	0.50 %	PASSED
20.00 µL	20.076 µL	0.18 %	0.38 %	1.00 %	0.14 %	0.30 %	PASSED

Uncertainty values reported are the maximum of the comparison of calculated measurement uncertainty and declared laboratory CMC values.

Replicates (2.000 µL)	Channel:1	1	2	3	4	5
		2.035	2.030	2.034	2.037	2.050
Replicates (10.000 µL)	Channel:1	1	2	3	4	5
		10.009	9.996	10.006	9.995	9.977
Replicates (20.00 µL)	Channel:1	1	2	3	4	5
		20.11	20.04	20.07	20.10	20.06

Materials

PCS Range 4 Solution	lot number #R40706161, exp: 6/30/2017
PCS CAL A	lot number #C00627161, exp: 6/30/2017
PCS Blank Vial	lot number #B10211164, exp: 6/30/2017
PCS Range 3 Solution	lot number #R30705161, exp: 6/30/2017
Pipette Tips	LTS Tips Rainin, lot #34754468

Environment

Ambient temp: 23.4 °C
Rel. Humidity: 49.7 %
Bar.Pressure: 1008.0 hPa

Operator Comment:

This is an overall comment to the performed Self-Assessment: the operator believes he did a good job and was well trained by his manager.

Artel PCS	Artel PCS 7010	Measurements made with the Artel Pipette Calibration System (PCS®) are traceable to the International System of Units (SI) through reference standards developed and maintained by the National Institute of Standards and Technology, USA (NIST), and by the National Physics Laboratory, UK (NPL). The PCS System and its components are covered by patents listed at: http://www.artel-usa.com/patents	
Firmware	PCS 7A3.000R		
Next Calibration	09/25/2016		
Last Calibration	20160825211219PCS3_7-7010		
Operator	Thomas Smith (TomS) Calibration Technician	Signature	(Signed Electronically)
		Date	8/30/2016 12:19:25 PM
Reviewer	Janet Manager (JanetM) Laboratory Manager	Signature	(Signed Electronically)
		Date	8/30/2016 12:29:25 PM
Approval Status	Approved		

Reviewer Comment:

Training approved. Good job!



25 Bradley Drive, Westbrook ME,
04092-2013