

Nom

Interlocuteur

Adresse du client

**But**

Le but de cette page de confirmation est de remplacer dans les documents ci-dessous chaque signature. Les signataires confirment et acceptent par leur signature sur cette page d'avoir pris connaissance de tous les documents mentionnés. De plus les signataires confirment que les résultats des tests dans les documents ci-dessous répondent aux critères qualitatifs et commerciaux ainsi que toute exception notée dans ce rapport. La signification détaillée des signatures du client et de l'employé de TECAN est décrite dans les cases ci-dessous.

Remarque: dans quelques-uns des documents ci-dessous les cases "Tecan Technicien SAV signature/date" ne sont pas remplies. Selon la configuration de l'instrument, des parties des documents peuvent être omises et peuvent ne pas être montrées. TECAN déclare en relation avec cette page de confirmation ces cases comme "non utilisables".

**Déclaration de renonciation**

Ce document est distribué par voie électronique et reste la propriété exclusive de Tecan. Ce document ne peut être changé ni reproduit sous aucune forme que ce soit sans l'accord écrit préalable de Tecan.

**Liste des documents**

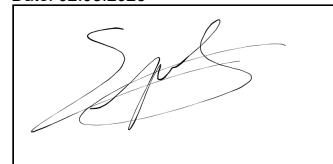
Date	Nom du document	Description
02.03.2023	ServiceReport_4474326_BGENE.pdf	Service Report
02.03.2023	PSC_392819_PM-FreedomEVO.pdf	Preventive Maintenance Freedom EVO
02.03.2023	Basic setup.pdf	Basic setup.pdf
02.03.2023	QC report.pdf	QC report.pdf
02.03.2023	Tip Adapter test.pdf	Tip Adapter test.pdf
02.03.2023	DiTi test.pdf	DiTi test.pdf
02.03.2023	PMP test.pdf	PMP test.pdf
02.03.2023	LLD test.pdf	LLD test.pdf
02.03.2023	Safety test.pdf	Safety test.pdf
02.03.2023	Move test.pdf	Move test.pdf
02.03.2023	Calibration plate.pdf	Calibration plate.pdf
02.03.2023	D200 N10 Air LiHa.pdf	D200 N10 Air LiHa.pdf
02.03.2023	D200 N2 MCA96 P1.pdf	D200 N2 MCA96 P1.pdf
02.03.2023	D200 N2 MCA96 P2.pdf	D200 N2 MCA96 P2.pdf
02.03.2023	D200 N2 MCA96 P3.pdf	D200 N2 MCA96 P3.pdf
02.03.2023	Calibration Plate.pdf	Calibration Plate.pdf
02.03.2023	Certificate EVO Service.pdf	Certificate EVO Service.pdf

**Technicien SAV:**

Signification de la signature:

Je confirme, par la présente, avoir établi les documents mentionnés ci-dessus. Basé sur ma responsabilité et ma compétence professionnelle j'ai vérifié que les résultats et les comptes-rendus des tests soient conformes aux exigences de TECAN pour le bon fonctionnement de la machine.

Date: 02.03.2023



Les ingénieurs Service fourniront au client tous les documents nécessaires à la réalisation de la prestation. La signature du client est nécessaire pour chaque opération ou dérogation de test.

**Client:**

Signification de la signature:

Je confirme, par la signature de ce document, avoir contrôlé, accepté et approuvé les documents mentionnés ci-dessus. Basé sur ma compétence et ma responsabilité j'accepte les résultats et les comptes-rendus des tests. Les contenus des documents répondent aux critères qualitatifs et commerciaux.

Date: 02.03.2023



N° de commande de service	4474326	Tél.	+330456520875
Adresse du client	BGENE maud.vidick@bgene-genetics.com 7 rue des arts et metiers F-38400 Grenoble Cedex 9	Interlocuteur	Sebastien Renoud
		Date d'entrée de la commande	24.02.2022
		Date d'intervention	02.03.2023
		N° de commande du client	BCBG21-001

N° d'équipement	11370550	N° de série	1610006680
UDI			
Description	INSTRUMENT FREEDOM EVO 150 MCA		
Symptôme - Groupe de Codes	999	Symptôme - Codage	030

Description de l'erreur/Réparation/Mesure

Maintenance annuelle de l'instrument selon la checklist ci-jointe.  
L'ensemble des pièces d'usures a été changé.  
L'ensemble des tests sous setup and Service est conforme.  
Les tests du MCA sous SnS n'ont pas été effectués car le client n'a pas le portoir de service. Les tests de prise de cônes et d'étanchéité ont été effectués sous Ewaware.

Nettoyage et graissage des axes.

Qualification par colorimétrie :  
- Bras Air LiHa : qualification à 10µL en DiTi 200µL conforme à nos exigences.  
- Bras MCA96 : qualification à 2µL en DiTi 200µL

Instrument conforme pour une utilisation en routine après intervention.

CF (Code de Facturation): Z1 = Gratuit                      Z2 = Garantie                      Z3 = Facturation                      Z4 = Garantie de réparation  
Z5 = Contrat                      Z6 = Installation

Numéro article	Description	Quantité	N° série ajouté	N° série enlevé	CF
30065419	OPTION DITI CONE AIR LIHA	7			Z5

**Statut de Réparation**

- Réparé - L'utilisation normale peut être poursuivie
- Erreur non reproductible - L'utilisation normale peut être poursuivie
- Erreur toujours présente
- Entretien fait / Maintenance effectuée
- Installation terminée

Date de Réparation	Temps de travail (hh:mm)	CF	Temps de déplacement (hh:mm)	CF	Kilomètres	CF
02.03.2023	2:00	Z5	2:00	Z5		

PSC\_392819\_PM-FreedomEVO

**Purpose:**

This form serves the TECAN authorized Service Technician as a checklist on the preventative maintenance process. However, this form does not contain the procedure in detail (refer to reference documents and to the SOP Field intervention Doc 10402TMs01). This checklist serves for hardware verification only and does not cover any process validation. Actions flagged N/A must be explained in the notes section of this document if the reason differs from the description text. Skipped or failed actions must always be explained. Printed versions of this checklist must always be bundled with the corresponding associated documents.

**Disclaimer:**

Depending on the configuration of instrument, sections of checklist can be omitted and may not be displayed.

**1. General Information**

Document Title	Preventive Maintenance Freedom EVO
Document Number	392819
Document Version	3.7

**Customer information**

Service Order #	000004474326
Contact person	Alexia CHANDOR
Performed By	Sacha Pinto Da Silva ( <a href="mailto:Sacha.PintoDaSilva@tecan.com">Sacha.PintoDaSilva@tecan.com</a> )

**Instrument information**

Instrument	INSTRUMENT FREEDOM EVO 150 MCA; INSTRUMENT SPARK 10M; BGENE; BGENE GRENOBLE
Code	11370550; 11367582; 149973-149973; 410766-410766
Serial Number	1610006680; 1610004252;

**2. Configuration**

Safety label	Please update equipment configuration prior to capture of any values.
--------------	-----------------------------------------------------------------------

The chapter is reflecting the equipment characteristics. If the characteristics is wrong the adjustments needs to performed in the equipment object. After the changes please perform a value reset and the new and changed characteristic will be updated.

**2.1. Equipment Type**

Instrument Type	EVO-2
Instrument Size	150
Front Safety Panel	ADJUSTABLE

**2.2. Freedom EVO Arm**

Arm Air LiHa 1	YES
Arm MCA96	YES

**2.6. Options**

MCA 96 Gripper Finger	YES
Dust Cover	YES

**3. Reference Documents**

Document [No. 392887]	Freedom EVO-1 Service Manual
Document [No. 393828]	Freedom EVO-2 Service Manual
Document [No. 392886]	Freedom EVO Operating Manual
Document [No. 392888]	Instrument Software Manual
Document [No. 10301TM01]	Out of Box Quality Report (393030)
Document [No. 40205TM01]	Certificate Of Decontamination (CoD)

**4. Actions**

Please proceed to the next chapter

**4.1. System**

Task	Interval	Further Description	Status
Air filter in dust cover	Every PM	Replace as needed	Done
Complete Freedom EVO	Every PM	Verify that the system is decontaminated	Done
Complete Freedom EVO	12 months	Clean system	Done
Frontal arm guide	12 months	Clean	Done
Worktable	12 months	Visually inspect, check grids	Done
Worktable	12 months	Replace grids if worn out or broken	N/A
X-rail	12 months	Clean and apply thin layer of grease	Done
Front safety panel	36 months	Replace gas spring	N/A

**4.5. Air LiHa**

Air LiHa

Task	Interval	Further description	Status
Arm	12 months	Visually inspect	Done
Support Tubing	12 months	Check condition	Done
Support Tubing	12 months	Replace if necessary	N/A
Z-Rod	12 months	Clean and apply thin layer of grease	Done
DiTi Cone and Tube Extension	12 months	Replace	Done
Cylinder Assembly	24 months	Replace Cylinder	N/A
Tip Adapter	24 months	Replace Tip Adapter	N/A

**4.8. MCA96**

MCA96

Task	Interval	Further description	Status
Tip Adapter	Every PM	Check the tip adapter function: Pick up and drop DiTis, pick up and park the tip block (MCA96)	N/A
Arm	12 months	Visually inspect	Done
P-drive	12 months	Check toothed belt	Done
Pipetting Head	12 months	Replace all 96 tip cone seals	N/A
Pipetting Head	12 months	Lubricate the plungers and spindles	N/A
Pipetting Head	36 months	Replace the pipetting head	N/A

MCA96 - Gripper

Task	Interval	Further description	Status
Gripper	12 months	Clean and lubricate gripper spindle	Done

**4.12. System Devices / Move Test**

System Devices / Move Test

Test	Acceptance Criteria / Further description	Status
Random Move Test	Duration 600 cycles, Re-init 200 cycles	Passed
Random Move Test 2 in case of obstructed worktable	Run either the Move Test or the Move Test2, Duration 600 cycles, Re-init 200 cycles	N/A

**4.15. System Devices / Air LiHa**

System Devices / Air LiHa

Test	Acceptance Criteria / Further description	Status
Verify Reference Positions	Reference positions accurately	N/A
Tip Adapter Test	Test passed with all available channels	Passed

**4.16. Liquid System / DiTi Test (Air LiHa)**

Liquid System / DiTi Test (Air LiHa)

Test	Acceptance Criteria / Further description	Status
(Lower) DiTi Eject Test	Test passed with all available channels	Passed

**4.19. Liquid System / PMP (Air LiHa)**

Liquid System / PMP (Air LiHa)

Test	Acceptance Criteria / Further description	Status
USB Test	Test passed	Passed
PMP Channel Test	Test passed with all available channels	Passed
Clogging Test	Test passed with all available channels	Passed
Leakage Test	Test passed with all available channels	Passed
P-Sensor Test	Test passed with all available channels	Passed
Filter Test	Test passed with all available channels	Passed
Pressure LLD Test	Test passed with all available channels	Passed

**4.21. Liquid System / Liquid System (AirLiHa)**

Disclaimer

After channel replacement it's required to perform the Liquid Level Detection Test of the appropriate tip configuration with either a 96 well micro plate or a 384 well micro plate, this in accordance with the customer's requirements. It's required to perform this test by using conductive disposable tips only! Check N/A if not applicable.

Liquid System / Liquid System (AirLiHa)

Test (A minimum of 2 tests need to be performed)	Acceptance Criteria / Further description	Status
Liquid Level Detection Test	Test passed with trough rack	Passed
Liquid Level Detection Test	Test passed with micro plate	N/A
Liquid Level Detection Test	Test passed with strip rack	Passed

**4.24. Air LiHa Precision Test**

Precision Test Method

QC Kit

Tecan France S.A.S.U., Tour Swiss Life, 1 bd Marius Vivier Merle  
 F-69003 Lyon, France  
 Tél.0820 88 77 36, Fax 0472 76 04 99, www.tecan.com  
 Besoin d'assistance: +33 (0)820 88 77 36

Tecan Service Report 4474326 for BGENE.pdf

**4.24.2. AirLiHa Precision Test with QC Kit**

Disclaimer It's required to perform the tests for all indicated volumes by using conductive disposable tips only!

**Tip Types**

**DiTi 200µl, non filtered**

Liquid System Configuration DiTi non filtered  
 Acceptance Criteria / Further Description Test passed at 10µl with CV ≤ 2.0%  
 Status Passed

**4.28. System Devices / MCA96**

System Devices / MCA96

Test	Acceptance Criteria / Further description	Status
DiTi Test	Test passed	N/A
Tip Block Test (Fixed Tip Block)	Test passed	N/A

System Devices / MCA96 - Gripper

Test	Acceptance Criteria / Further description	Status
Plate Move Test (Gripper Option)	Test passed	N/A

**Tightness Test performed in EVOware**

Acceptance Criteria / Further Description Head is able to aspirate liquid and hold liquid for a minimum time of 5 minutes (DiTi's) / 1 minute (FTB), no droplets on the worktable during this time (scripts available in: \EVOware\database\maintenance)  
 Status Passed  
 Actions flagged N/A must be explained in the notes section of this document if the reason differs from the description text.  YES  NO  
 Skipped or failed actions must always be explained.  
 Comments / Description Le client n'avait pas le portoir de service. Test de prise de cônes sous Evoware.

**4.29. MCA96 Colorimetric Precision Test with QC Kit**

Disclaimer It's required to perform the tests at all indicated volumes of the appropriate tip configuration (3 plates needed to create the pass / fail report). Check N/A in case tests are done with alternative method.

**DiTi 50µl**

Acceptance Criteria / Further Description Test passed at 1µl with CV ≤ 6.0%  
 Status N/A

**DiTi 100µl**

Acceptance Criteria / Further Description Test passed at 1.5µl with CV ≤ 6.0%  
 Status N/A

**DiTi 200µl**

Acceptance Criteria / Further Description Test passed at 2µl with CV ≤ 6.0%  
 Status Passed

**Standard Tipblock**

Acceptance Criteria / Further Description Test passed at 5µl with CV ≤ 4.0% and at 50µl with CV ≤ 3.0%  
 Status N/A

**HP Tipblock**

Acceptance Criteria / Further Description Test passed at 1µl with CV ≤ 10.0%, at 5µl with CV ≤ 4.0% and at 10µl with CV ≤ 3.0%  
 Status N/A

**4.34. Options / Access Status Options**

Options / Access Status Options

Test	Acceptance Criteria / Further description	Status
I/O Module Tests	Test passed	N/A
Loading Interface Tests	Test passed	N/A
RSS Tests	Test passed	N/A
SPO/MPO Sensor Tests	Test passed	N/A
Safety Tests (refer to Safety Tests Disclaimer below)	Test passed	Passed

Safety Tests Disclaimer If door locks are bypassed on standard instruments, please re-activate the door locks, perform all safety tests and use the comment section to document this occurrence. Also inform the customer that bypassing the door locks is strictly forbidden and if they'll bypass the door locks, the result is that the instrument is not used as intended and in case of an accident the customer will be made liable! In any case, if safety tests have not been accomplished, please specify it in the comment section of this document!

**4.42. Options / 3rd Party Devices**

**4.44. Additional Tests**

Disclaimer Check N/A in case no additional tests are required.  
 N/A  YES  NO

**4.45. Setup and Service Software Module**

Setup and Service Software Module

Task	Further Description	Status
Create EEPROM backup files	Using the Instrument / Basic Setup panel within S&S	Done
Make a print out of system information	Using the Instrument / Information panel within S&S	Done

**4.46. Remote Access**

Disclaimer Internet access for the EVO PC is strongly recommended to allow remote diagnosis and support through remote access. If task checked N/A, please state the reason in the Comment section.

Remote Access Status Remote access not possible or denied

Reason why remote access is not possible or denied Customer does not allow instrument PC to be connected to the Internet

Please indicate customer name and contact details to follow up on your pre-discussion Alexia CHANDOR

**4.47. IoT Client**

IoT Client Status IoT Client will NOT be installed

Reason why the IoT client was not installed Customer does not want to connect

Please indicate customer name and contact details to follow up on your pre-discussion (If it is the same person as stated within the chapter Remote Access, please note: see remote access) Alexia CHANDOR

**4.48. Tecan Mobile Tool**

Disclaimer The Tecan Mobile Tool / SAP FSM (Field Service Management) is a tool to update the equipments / instruments history or configuration into the Tecan database.

Tecan Mobile Tool

Task	Further Description	Status
Maintain equipment characteristics data	In SAP/FSM (e.g. SW version)	Done

**6. Signatures**

Confirmation The service technician confirms with signature that the intervention was performed in accordance to this checklist and the published Tecan procedures that apply to the instrument listed on this form.

Maintenance Date 02.03.2023

Checklist specific signature is NOT required  YES  NO

Service Bundle  YES  NO

Doc. No.	Title	Version	Effective Date	Author
392819	Preventive Maintenance Freedom EVO	3.7	2020-05-11	Denis Delalic



## QC Report

### Instrument Basic Setup

BasicSetup.dll Version: 1.23.1.0  
 Panel.dll Version: 1.23.1.0  
 Genesis.dll Version: 1.23.1.0  
 GUIExtensions.dll Version: 1.22.1.0  
 OSp.dll Version: 1.21.1.0  
 Setup and Service Version: 7.3.1.0  
 Computer Name: BGPC011-evo

Instrument Type: EVO  
 Instrument Serial Number: 1610006680  
 Tools [Type, SN]: None specified  
 Date: 02/Mar/2023 09:05:35

Test Configuration: Default

Operator: field specialist      Date:      Signature:

#### Instrument Properties

Type: freedom evo  
 Size: 150

##### Arm order

	Arm	Addr	Movable Range [mm]	Deviation [mm]	Deviation Limit [mm]
1	LiHa	C5	901.6	0.6	na
2	MCA96	W1	901.9	0.9	na

#### Diagnostics Data

Power Ups: 1188  
 On Time [h]: 6029.87  
 Downloads: 1  
 Page erases: 148

#### Device Information

	Device	Firmware	Bootware	Serial Number
C6T00	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T02	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T04	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T06	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T08	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T0A	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
W2T00	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
W2T02	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
W2T04	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T20	XP2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T21	XP2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T22	XP2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T23	XP2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T24	XP2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T25	XP2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T26	XP2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T27	XP2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C5	LIHACU	V1.80-02/2016	V1.10-04/2007	1610006681
W1	MCA	V1.21-04/2012	V1.10-04/2007	2283
C6T36	PMP	V1.02-06/2011	V1.00-01/2006	16320200
O1	SAFY	V1.30-04/2008	V1.10-12/99	16270013
M1	TECU	V1.40-12/2007	V1.10-07/2005	1610006680

Instrument Basic Setup    Instrument Serial Number: 1610006680    Date: 02/Mar/2023 09:05:35    Page 1/2

	Device	Firmware	Bootware	Serial Number
W2T40	TESERVO	V1.00-05/2006	TeSerBo-V1.00-01/2006	-



QC report.pdf



## QC Report

## Instrument Information

Information.dll Version: 1.21.1.0  
Panel.dll Version: 1.23.1.0  
Genesis.dll Version: 1.23.1.0  
GUIExtensions.dll Version: 1.22.1.0  
OSpp.dll Version: 1.21.1.0  
Setup and Service Version: 7.3.1.0  
Computer Name: BGPC011-evo

Instrument Type: EVO  
Instrument Serial Number: 1610006680  
Tools [Type, SN]: None specified  
Date: 02/Mar/2023 09:07:00

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Operator: field specialist      Date:      Signature:

---

**Instrument Information****Instrument Properties**

Type: freedom evo  
Size: 150

Arm order

	Arm	Addr	Movable Range [mm]	Deviation [mm]	Deviation Limit [mm]
1	LiHa	C5	901.6	0.6	na
2	MCA96	W1	901.9	0.9	na

**Diagnostics Data**

Power Ups: 1188  
On Time [h]: 6029.90  
Downloads: 1  
Page erases: 148

**Device Information**

Instrument Information    Instrument Serial Number: 1610006680    Date: 02/Mar/2023 09:07:00    Page 1/6

	Device	Firmware	Bootware	Serial Number
C6T00	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T02	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T04	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T06	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T08	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T0A	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
W2T00	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
W2T02	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
W2T04	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T20	XF2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T21	XF2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T22	XF2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T23	XF2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T24	XF2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T25	XF2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T26	XF2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C6T27	XF2000	V1.20-02/2015,1.2.0.10946,ZMA	V1.00-05/2011,1.0.0.9506,ZMB	-
C5	LIHACU	V1.80-02/2016	V1.10-04/2007	1610006681
W1	MCA	V1.21-04/2012	V1.10-04/2007	2283
C6T36	PMP	V1.02-06/2011	V1.00-01/2006	16320200
O1	SAFY	V1.30-04/2008	V1.10-12/99	16270013
M1	TECU	V1.40-12/2007	V1.10-07/2005	1610006680
W2T40	TESERVO	V1.00-05/2006	TeSerBo-V1.00-01/2006	-

**LiHa Arm**

Address: C5  
 Serial Number: 1610006681  
 Firmware Version: V1.80-02/2016  
 Bootware Version: V1.10-04/2007  
 Tips: 8  
 Spacing: 9.0 - 38.0 mm variable  
 Lower DiTi Eject: available  
 LLD Type: Standard ilid

Axes Parameters

	Offset	Displ	Range	Scale	Accel	Speed	Move Speed
X	1.0	-15.1	386.5	1.0001	160.0	1000.0	100.0
Y	1.0	-88.1	283.5	1.0000	240.0	350.0	35.0
Ys	1.0	9.0	38.0	1.0003	240.0	350.0	35.0
Z1	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z2	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z3	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z4	8.2	-50.0	260.0	1.0000	200.0	400.0	40.0
Z5	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0

Instrument Information Instrument Serial Number: 1610006680 Date: 02/Mar/2023 09:07:00 Page 2/6

	Offset	Displ	Range	Scale	Accel	Speed	Move Speed
Z6	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z7	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z8	8.2	-50.0	260.0	1.0000	200.0	400.0	40.0

**Diagnostics Data**

	Moves	Moves (cl)	Distance	No-Loads	Fetches DiTi's	Piercings	Status
X	135065	135065	31424	15	-	-	ready
Y	162198	162198	15640	9	-	-	ready
Ys	162307	162307	16192	9	-	-	ready
Z1	450595	450595	33230	77	22224	0	ready
Z2	406668	406668	30493	32	19883	0	ready
Z3	394150	394150	29833	23	19242	0	ready
Z4	386400	386400	29163	35	19018	0	ready
Z5	352155	352155	25472	34	15174	0	ready
Z6	346213	346213	24976	29	14919	0	ready
Z7	338435	338435	24255	30	14617	0	ready
Z8	331647	331647	23609	24	14456	0	ready

Te-Fill: NA

**MCA**

Address: W1  
 Serial Number: 2283  
 Firmware Version: V1.21-04/2012  
 Bootware Version: V1.10-04/2007

Axes Parameters

	Offset	Displ	Range	Scale	Accel	Speed
X	2.0	165.0	1066.9	0.9998	55.0	500.1
Y	1.0	-12.8	296.6	0.9960	75.3	351.4
Z	1.0	0.0	236.9	1.0000	40.0	120.0
G	2.0	69.0	127.8	1.0000	30.0	40.0
P	100.0	0.0	6750.0	1.0000	6500.0	8000.0

**Diagnostics Data**

Power ups: 1169  
 Minute meter: 360319  
 FW downloads: 0  
 FW page erased: 67

Axes

	Moves	Moves (cl)	Distance	No-Loads	Status
X	16574	16574	2257	17	ready

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 F-69003 Lyon, France  
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	Moves	Moves (cl)	Distance	No-Loads	Status
G	6546	6546	91	0	ready
P	6194	6194	85	0	ready

**Version Information**

**System Modules**

System Modules	Version	Description	Copyright	Original Filename	Product Name
SnSFrame.exe	7.3.1.0	Instrument Setup and Service Application	Copyright © 2015 by Tecan Trading AG	SnSFrame.exe	Setup and Service
Genesis.dll	1.23.1.0	Device library for GENESIS Instruments	Copyright © 2015 by Tecan Trading AG	Genesis.dll	Setup and Service
Panel.dll	1.23.1.0	Base classes for concrete Panel Modules	Copyright © 2015 by Tecan Trading AG	Panel.DLL	Setup and Service
OSpp.dll	1.21.1.0	C++ wrapper for WinApp functions	Copyright © 2015 by Tecan Trading AG	OSpp.dll	Setup and Service
GUIExtensions.dll	1.22.1.0	GUI Extensions based on MFC controls. Used by Panel base classes and concrete panels	Copyright © 2015 by Tecan Trading AG	GUIExtensions.dll	Setup and Service
TCSDriver.dll	1.8.1.0	TCSDriver Tecan Communication Server	Copyright © 2015 by Tecan Trading AG	TCSDriver.dll	Setup and Service
TLSDriver.dll	1.11.1.0	TLSDriver - Tecan Login Server	Copyright © 2015 by Tecan Trading AG	TLSDriver.dll	Setup and Service
ZLIB.dll	1.1.3.1	zlib data compression library	(C) 1995-1998 Jean-loup Gailly & Mark Adler	zlib.dll	ZLib.DLL
VPES3270.dll	7.00	Virtual Print Engine Standard Edition	Copyright © 1995 - 2014 IDEAL Software® GmbH. All rights reserved.	-	Virtual Print Engine Standard Edition
ZaapMotionAdapter.dll	1.1.0.1	ZaapMotionAdapter	Copyright © Tecan Schweiz AG 2013	ZaapMotionAdapter.dll	ZaapMotionAdapter
ZaapMotionDriver.dll	1.1.0.1	ZaapMotionDriver Release	Copyright © Tecan Schweiz AG 2013	ZaapMotionDriver.dll	ZaapMotionDriver

**Panels**

Panels	Version	Description	Copyright	Original Filename	Product Name	Product Version
AirLiHa.dll	1.4.1.0	Setup and QC Test module for AirLiHa	Copyright © 2015 by Tecan Trading AG	AirLiHa.dll	Setup and Service	7.3
Autoloader.dll	1.20.1.0	Setup and QC Test module for Autoloader	Copyright © 2015 by Tecan Trading AG	Autoloader.DLL	Setup and Service	7.3
BasicSetup.dll	1.23.1.0	Setup module for basic setups	Copyright © 2015 by Tecan Trading AG	BasicSetup.dll	Setup and Service	7.3
CGM.dll	1.8.1.0	Setup and QC Test module for CGM	Copyright © 2015 by Tecan Trading AG	CGM.DLL	Setup and Service	7.3
CheckCarrierPosition.dll	1.14.1.0	Tool to check carrier positions according to worktable DB	Copyright © 2015 by Tecan Trading AG	CheckCarrierPosition.DLL	Setup and Service	7.3
CommandTool.dll	1.21.1.0	Tool module for FW Commands	Copyright © 2015 by Tecan Trading AG	CommandTool.dll	Setup and Service	7.3

Instrument Information Instrument Serial Number: 1610006680 Date: 02/Mar/2023 09:07:00 Page 4/6

	Version	Description	Copyright	Original Filename	Product Name	Product Version
DiTiTest.dll	1.3.1.0	Setup and QC Test module for DiTiTest	Copyright © 2015 by Tecan Trading AG	DiTiTest.DLL	Setup and Service	7.3
Incubator.dll	2.9.1.0	Setup and QC Test module for Incubator	Copyright © 2015 by Tecan Trading AG	Incubator.DLL	Setup and Service	7.3
Information.dll	1.21.1.0	Tool module for Information	Copyright © 2015 by Tecan Trading AG	Information.dll	Setup and Service	7.3
IOModule.dll	1.19.1.0	Setup and QC Test module for IO-Option	Copyright © 2015 by Tecan Trading AG	iomodule.DLL	Setup and Service	7.3
LiHa.dll	1.23.1.0	Setup and QC Test module for LiHa	Copyright © 2015 by Tecan Trading AG	LiHa.dll	Setup and Service	7.3
LiquidSystem.dll	1.16.1.0	Setup and QC Test module for Liquid System	Copyright © 2015 by Tecan Trading AG	Liquid System.DLL	Setup and Service	7.3
LoadingInterface.dll	1.19.1.0	Setup and QC Test module for Loading Interface of EVO	Copyright © 2015 by Tecan Trading AG	LoadingInterface.DLL	Setup and Service	7.3
MCA.dll	1.14.1.0	Setup and QC Test module for MCA	Copyright © 2015 by Tecan Trading AG	MCA.DLL	Setup and Service	7.3
MCA384.dll	1.8.1.0	Setup and QC Test module for MCA384	Copyright © 2015 by Tecan Trading AG	MCA384.DLL	Setup and Service	7.3
MCAWash.dll	1.7.1.0	Setup and QC Test module for MCAWash	Copyright © 2015 by Tecan Trading AG	MCAWash.DLL	Setup and Service	7.3
MoveTest.dll	1.23.1.0	QC Test Module for RoMa, LiHa and PosID Move Tests	Copyright © 2015 by Tecan Trading AG	MoveTest.dll	Setup and Service	7.3
PMP.dll	1.16.1.0	Setup and QC Test module for PMP	Copyright © 2015 by Tecan Trading AG	PMP.DLL	Setup and Service	7.3
PnP.dll	1.23.1.0	Setup and QC Test module for PnP	Copyright © 2015 by Tecan Trading AG	PnPModule.DLL	Setup and Service	7.3
PosID2.dll	1.20.1.0	Setup and QC Test module for PosID2	Copyright © 2015 by Tecan Trading AG	PosID2.DLL	Setup and Service	7.3
PosID3.dll	1.16.1.0	Setup and QC Test module for PosID3	Copyright © 2015 by Tecan Trading AG	PosID3.DLL	Setup and Service	7.3
Repositioner.dll	1.20.1.0	Setup and QC Test module for Repositioner	Copyright © 2015 by Tecan Trading AG	Repositioner.DLL	Setup and Service	7.3
Results.dll	1.19.1.0	Setup and QC Test module for Results	Copyright © 2015 by Tecan Trading AG	Results.DLL	Setup and Service	7.3
RoboticDevices.dll	1.16.1.0	Tool module for robotic devices	Copyright © 2015 by Tecan Trading AG	RoboticDevices.DLL	Setup and Service	7.3
RoMa.dll	1.23.1.0	Setup and QC Test module for RoMa	Copyright © 2015 by Tecan Trading AG	RomaModule.DLL	Setup and Service	7.3
Safety.dll	1.19.1.0	Setup and QC Test module for Safety	Copyright © 2015 by Tecan Trading AG	Safety.DLL	Setup and Service	7.3
SlideInBCR.dll	1.0.1.0	Setup and QC Test module for Slide In Barcode Scanner	Copyright © 2015 by Tecan Trading AG	SlideInBCR.dll	Setup and Service	7.3

Instrument Information Instrument Serial Number: 1610006680 Date: 02/Mar/2023 09:07:00 Page 5/6

	Version	Description	Copyright	Original Filename	Product Name	Product Version
SpoMpo.dll	1.19.1.0	Setup and QC Test module for SPO-MPO	Copyright © 2015 by Tecan Trading AG	SpoMpo.DLL	Setup and Service	7.3
Supervisor2.dll	1.19.1.0	Setup and QC Test module for Supervisor2	Copyright © 2015 by Tecan Trading AG	Supervisor2.DLL	Setup and Service	7.3
TeFill.dll	1.12.1.0	Setup and QC Test module for Te-Fill	Copyright © 2015 by Tecan Trading AG	TeFill.DLL	Setup and Service	7.3
TeLink.dll	1.20.1.0	Setup and QC Test module for Shuttle	Copyright © 2015 by Tecan Trading AG	Shuttle.DLL	Setup and Service	7.3
TeMags.dll	1.23.1.0	Setup and QC Test module for Te-Mags	Copyright © 2015 by Tecan Trading AG	TeMags.dll	Setup and Service	7.3
TeMO.dll	1.21.1.0	Setup and QC Test module for Te-MO Base	Copyright © 2015 by Tecan Trading AG	TeMO.DLL	Setup and Service	7.3
TeMORefill.dll	1.21.1.0	Setup and QC Test module for Te-MO Refill	Copyright © 2015 by Tecan Trading AG	TeMORefill.DLL	Setup and Service	7.3
TeMoWashUnit.dll	1.21.1.0	Setup and QC Test module for Te-MO Wash Unit	Copyright © 2015 by Tecan Trading AG	TeMoWashUnit.DLL	Setup and Service	7.3
TeShake.dll	1.23.1.0	Setup and QC Test module for Te-Shake	Copyright © 2015 by Tecan Trading AG	TeShake.DLL	Setup and Service	7.3
TeStack.dll	2.13.1.0	Setup and QC Test module for TeStack	Copyright © 2015 by Tecan Trading AG	TeStack.DLL	Setup and Service	7.3
TeVacs.dll	1.21.1.0	Setup and QC Test module for Te-VacS	Copyright © 2015 by Tecan Trading AG	TeVacs.dll	Setup and Service	7.3





## QC Report

### AirLiHa Device Test

AirLiHa.dll Version: 1.4.1.0  
 Panel.dll Version: 1.23.1.0  
 Genesis.dll Version: 1.23.1.0  
 GUIExtensions.dll Version: 1.22.1.0  
 OSpp.dll Version: 1.21.1.0  
 Setup and Service Version: 7.3.1.0  
 Computer Name: BGPC011-evo  
  
 AirLiHa Serial Number: 1610006681  
 Instrument Type: EVO  
 Instrument Serial Number: 1610006680  
 Tools [Type, SN]: None specified  
 Date: 02/Mar/2023 09:39:46

**Test Result:** Passed  
**Tests done:** Not All  
**Test Configuration:** Default  
**Device Default Settings:** Default

**Operator:** field specialist      **Date:**      **Signature:**

#### Device

##### Configuration

Address: C5  
 Firmware Version: V1.80-02/2016  
 Bootware Version: V1.10-04/2007  
 Number of Tips: 8  
 Spacing: 9.0 - 38.0 mm variable  
 LLD Type: Standard ilid

##### Serial Numbers

###### Boards

	Part Number	Revision Level	Serial Number
1	30061344	09	AD16421595
2	30061344	09	AD16421618

###### Axes

	Device Address	Tip / Z	Part Number	Revision Level	Serial Number
1	C6T20	1	30071150	05	1610006327
2	C6T21	2	30071150	05	1610006328
3	C6T22	3	30071150	05	1610006329
4	C6T23	4	30071150	05	1610006330
5	C6T24	5	30071150	05	1610006331
6	C6T25	6	30071150	05	1610006332
7	C6T26	7	30071150	05	1610006333
8	C6T27	8	30071150	05	1610006334

##### Parameters

###### Axes

	Offset	Displ	Range	Scale	Accel	Speed	Move Speed
X	1.0	-15.1	886.5	1.0001	160.0	1000.0	100.0
Y	1.0	-88.1	283.5	1.0000	240.0	350.0	35.0
Ys	1.0	9.0	38.0	1.0003	240.0	350.0	35.0
Z1	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z2	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z3	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0

	Offset	Displ	Range	Scale	Accel	Speed	Move Speed
Z4	8.2	-50.0	260.0	1.0000	200.0	400.0	40.0
Z5	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z6	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z7	8.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z8	8.2	-50.0	260.0	1.0000	200.0	400.0	40.0

**Diagnostics**

Axes	Moves	Moves (cl)	Distance	No-Loads	Fetches DiTI's	Piercings	Status
X	135067	135067	31424	15	-	-	ready
Y	162199	162199	15640	9	-	-	ready
Ys	162308	162308	16192	9	-	-	ready
Z1	450597	450597	33231	77	22224	0	ready
Z2	406670	406670	30494	32	19883	0	ready
Z3	394152	394152	29834	23	19242	0	ready
Z4	386402	386402	29163	35	19018	0	ready
Z5	352157	352157	25472	34	15174	0	ready
Z6	346215	346215	24977	29	14919	0	ready
Z7	338437	338437	24256	30	14617	0	ready
Z8	331649	331649	23609	24	14456	0	ready

**Te-PS Carriers**

Grid

**Setup Results**

**Arm Position Accuracy: Not Applicable**

Test Configuration Details

Pass / Fail Criteria

Detailed Results

Tips and Test

**Te-PS Compliance Test: Not Applicable**

Test Configuration Details

Pass / Fail Criteria

Detailed Results

**Carrier Alignment Test: Not Applicable**

Test Configuration Details

Pass / Fail Criteria

Detailed Results

**Tip Adapter: Passed**

Test Configuration Details

Available Adapters: 8

Participating Adapters: 8

Pass / Fail Criteria

All adapters must report 'open' and 'closed' correctly

Detailed Results

Adapter 1: Passed

Adapter 2: Passed

Adapter 3: Passed

Adapter 4: Passed

Adapter 5: Passed

Adapter 6: Passed

Adapter 7: Passed

Adapter 8: Passed

Test Configuration: Default

**Reed Crosstalk: Not Done**

Pass / Fail Criteria  
Detailed Results

***Tip Verify: Not Applicable***  
Test Configuration Details  
Detailed Results

***Individual-Z Verify: Not Applicable***  
Test Configuration Details  
Detailed Results



DiTi test.pdf



## QC Report

## DiTi Test Device Test

DiTiTest.dll Version: 1.3.1.0  
Panel.dll Version: 1.23.1.0  
Genesis.dll Version: 1.23.1.0  
GUIExtensions.dll Version: 1.22.1.0  
OSpp.dll Version: 1.21.1.0  
Setup and Service Version: 7.3.1.0  
Computer Name: BGPC011-evo

DiTi Test Serial Number: 1610006681  
Instrument Type: EVO  
Instrument Serial Number: 1610006680  
Tools [Type, SN]: None specified  
Date: 02/Mar/2023 10:10:46

**Test Result:** Passed  
**Tests done:** All  
**Test Configuration:** Default  
**Device Default Settings:** na

---

**Operator:** field specialist

**Date:**

**Signature:**

---

**Device****Configuration**

Firmware Version: V1.80-02/2016

Bootware Version: V1.10-04/2007

Tip Configuration

	Type
Tip1	Disposable Tip Adapter
Tip2	Disposable Tip Adapter
Tip3	Disposable Tip Adapter
Tip4	Disposable Tip Adapter
Tip5	Disposable Tip Adapter
Tip6	Disposable Tip Adapter
Tip7	Disposable Tip Adapter
Tip8	Disposable Tip Adapter

**Lower DiTi Eject Test: Passed****Test Configuration Details**

Cycles: 12  
Tip selection: 1, 2, 3, 4, 5, 6, 7, 8  
DiTi Type: 200 EDiti

**Pass / Fail Criteria**

Each fetching and dropping of DiTis is visually verified.  
Number of DiTis not fetched: 0  
Number of DiTis not mounted: 0  
Number of DiTis not dropped: 0

**Detailed Results**

Cycles done: 12  
Number of errors DiTis not fetched: 0  
Number of errors DiTis not mounted: 0  
Number of errors DiTis not dropped: 0  
Operator confirmed that all DiTis have been fetched and dropped correctly.

DiTi Test Device Test Device Serial Number: 1610006681 Date: 02/Mar/2023 10:10:46 Page 1/1

PMP test.pdf



## QC Report

## PMP Device Test

PMP.dll Version: 1.16.1.0  
Panel.dll Version: 1.23.1.0  
Genesis.dll Version: 1.23.1.0  
GUIExtensions.dll Version: 1.22.1.0  
OSpp.dll Version: 1.21.1.0  
Setup and Service Version: 7.3.1.0  
Computer Name: BGPC011-evo

PMP Serial Number: 16320200  
Instrument Type: EVO  
Instrument Serial Number: 1610006680  
Tools [Type, SN]: None specified  
Date: 02/Mar/2023 10:21:55

**Test Result:** Passed  
**Tests done:** All  
**Test Configuration:** Default  
**Device Default Settings:** na

---

**Operator:** field specialist

**Date:**

**Signature:**

---

**Devices****PMP**

## Configuration

Firmware Version: V1.02-06/2011  
Bootware Version: V1.00-01/2006

**LiHa Arm**

Serial Number: 16320200  
Address: C6T36  
Firmware Version: V1.02-06/2011  
Bootware Version: V1.00-01/2006

**Liquid Channel Configuration**

	Tip Type	Syringe Volume [ul]
Tip 1	PMP Tip Adapter	1250.
Tip 2	PMP Tip Adapter	1250.
Tip 3	PMP Tip Adapter	1250.
Tip 4	PMP Tip Adapter	1250.
Tip 5	PMP Tip Adapter	1250.
Tip 6	PMP Tip Adapter	1250.
Tip 7	PMP Tip Adapter	1250.
Tip 8	PMP Tip Adapter	1250.

**Common**

**Dilutor backlash compensation [steps]:** 30

**Z-Axes Pressure [PWM]:** 30

**Air Gap Aspiration Speed [ul/sec]:** 70

**LDT Specifics**

System Trailing Air Gap [ul]: 20.000

## Flush before test

FaWa [sec]: 10  
PWM [%]: 100  
Dilutors [cycles]: 6

PMP Device Test Device Serial Number: 16320200 Date: 02/Mar/2023 10:21:55 Page 1/5

**Naming**

**Clogging Test / Leakage Test**

- p1: Ambient pressure before overpressure [ADC steps]
- p2: Overpressure [ADC steps]
- p3: Ambient pressure after overpressure [ADC steps]
- p4: Underpressure [ADC steps]
- p5: Underpressure 5 seconds after p4 [ADC steps]
- p6: Ambient pressure just after p5 [ADC steps]
- p7: Overpressure leakage [ADC steps]
- p8: Overpressure 5 seconds after p7 [ADC steps]
- p9: Ambient pressure just after p8 [ADC steps]

**USB Test: Passed**

**Test Configuration Details**

Establish once connection to PMP controller

**Pass / Fail Criteria**

USB connection to PMP control board can be established

**Detailed Results**

Establish connection: passed

**PMP Channel Test: Passed**

**Test Configuration Details**

Common  
 Dilutor Speed [ul/sec]: 100.00  
 Altitude [m]: 230

200 Diti  
 Overpressure Volume [ul]: 4.2

**Pass / Fail Criteria**

Channels (dilutor, p-sensor, wiring and tubing) are setup correctly. Each sensor does only 'see' the corresponding dilutor.

**Detailed Results**

	dil1	dil2	dil3	dil4	dil5	dil6	dil7	dil8
sensor1	pressure	-	-	-	-	-	-	-
sensor2	-	pressure	-	-	-	-	-	-
sensor3	-	-	pressure	-	-	-	-	-
sensor4	-	-	-	pressure	-	-	-	-
sensor5	-	-	-	-	pressure	-	-	-
sensor6	-	-	-	-	-	pressure	-	-
sensor7	-	-	-	-	-	-	pressure	-
sensor8	-	-	-	-	-	-	-	pressure
status	passed	passed	passed	passed	passed	passed	passed	passed

**Clogging Test: Passed**

**Test Configuration Details**

Common  
 Dilutor Speed [ul/sec]: 100.00  
 Altitude [m]: 230

200 Diti  
 Overpressure Volume [ul]: 4.2

200 Diti  
 Air Volume [ul]: 1885.0  
 Overpressure Volume [ul]: 144.5

**Pass / Fail Criteria**

Min difference between overpressure and ambient pressure (p2-p1): 100  
 Max difference between ambient pressure before and after applying overpressure: 5  
 See 'Detailed Results' for values

**Detailed Results**

	tip1	tip2	tip3	tip4	tip5	tip6	tip7	tip8
p1	1324	1427	1348	1404	1400	1363	1389	1386
p2-p1	151	152	151	151	154	154	152	150
p3-p1	0	0	1	-1	-1	0	-1	0
p2-p1 min diff	100	100	100	100	100	100	100	100
p1,p3 max diff	5	5	5	5	5	5	5	5
status	passed	passed	passed	passed	passed	passed	passed	passed

**Leakage Test: Passed**
**Test Configuration Details**

## Common

Dilutor Speed [ul/sec]: 50.00  
 Altitude [m]: 230

## 200 Diti

Underpressure Volume [ul]: 34.1  
 Overpressure Volume [ul]: 154.0

**Pass / Fail Criteria**

All pressures must be lower or equal the indicated values  
 See 'Detailed Results' for values

**Detailed Results**

	tip1	tip2	tip3	tip4	tip5	tip6	tip7	tip8
p3	1323	1427	1349	1403	1399	1362	1389	1386
p5-p4	4	9	21	3	2	2	3	2
p7-p8	10	37	92	-2	-2	-2	1	5
p3-p4	1018	1000	966	1009	1038	1037	1009	1031
p7-p3	4823	4740	4518	4833	4971	4960	4819	4892
p5-p4 max diff	75	75	75	75	75	75	75	75
p7-p8 max diff	200	200	200	200	200	200	200	200
p3-p4 min diff	645	645	645	645	645	645	645	645
p3-p4 max diff	1301	1301	1301	1301	1301	1301	1301	1301
p7-p3 min diff	3779	3779	3779	3779	3779	3779	3779	3779
p7-p3 max diff	5905	5905	5905	5905	5905	5905	5905	5905
status	passed	passed	passed	passed	passed	passed	passed	passed

**P-Sensor Test: Passed**
**Test Configuration Details**

## Common

Cycles: 6  
 Air Volume in Pipetting Tubing: Syringe Volume  
 Dilutor Speed [ul/sec]: 50.00  
 Ambient pressure target [ADC steps]: 1374  
 Altitude [m]: 230

## 200 Diti

Air Volume [ul]: 1885.0  
 Overpressure Volume [ul]: 144.5

**Pass / Fail Criteria**

Max ambient pressure deviation [ADC steps]: 210  
 Target over pressure [mBar]: 81.8  
 Max deviation from over pressure [%]: 7.5

**Detailed Results**

## Ambient Pressure

	tip1	tip2	tip3	tip4	tip5	tip6	tip7	tip8
current [steps]	1323	1426	1348	1403	1399	1363	1388	1386
target [steps]	1374	1374	1374	1374	1374	1374	1374	1374
max deviation [steps]	210	210	210	210	210	210	210	210
status	passed	passed	passed	passed	passed	passed	passed	passed

## Over Pressure

PMP Device Test Device Serial Number: 16320200 Date: 02/Mar/2023 10:21:55 Page 3/5

	tip1	tip2	tip3	tip4	tip5	tip6	tip7	tip8
cycle1 [mBar]	82.2	82.5	82.2	81.0	83.3	83.2	82.3	82.4
cycle2 [mBar]	82.3	82.6	82.2	81.1	83.4	83.3	82.4	82.5
cycle3 [mBar]	82.3	82.6	82.1	81.0	83.4	83.3	82.4	82.5
cycle4 [mBar]	82.3	82.6	82.2	81.0	83.4	83.3	82.4	82.4
cycle5 [mBar]	82.3	82.6	82.2	81.0	83.4	83.3	82.4	82.5
cycle6 [mBar]	82.3	82.6	82.2	81.1	83.4	83.3	82.4	82.5
ambient pressure [mBar]	-1.7	1.8	-0.9	1.1	0.9	-0.4	0.5	0.4
min pressure [mBar]	82.2	82.5	82.1	81.0	83.3	83.2	82.3	82.4
max pressure [mBar]	82.3	82.6	82.2	81.1	83.4	83.3	82.4	82.5
target pressure [mBar]	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8
max deviation [%]	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
status	passed	passed	passed	passed	passed	passed	passed	passed

Note: Cycle values are corrected with ambient pressure

### Filter Test: **Passed**

#### Test Configuration Details

##### Common

Aspiration Volume [ul]:	200.00
Aspiration Speed [ul/sec]:	140
Aspiration Acceleration [ul/sec <sup>2</sup> ]:	1250
Aspiration Deceleration [ul/sec <sup>2</sup> ]:	1250

#### Pass / Fail Criteria

##### Test

Min pressure diff during move [ADC steps]:	15
Max pressure diff during move [ADC steps]:	50
Max pressure diff after move [ADC steps]:	5

#### Detailed Results

	tip1	tip2	tip3	tip4	tip5	tip6	tip7	tip8
Basis Pressure Level	1323	1426	1349	1403	1399	1362	1388	1385
Abs Filter Resistance	1295	1399	1327	1381	1378	1342	1365	1364
Rel Filter Resistance	28	27	22	22	21	20	23	21
After Move Pressure	1323	1426	1348	1403	1399	1362	1388	1385
Overall diff	0	0	1	0	0	0	0	0
Min diff during m.	15	15	15	15	15	15	15	15
Max diff during m.	50	50	50	50	50	50	50	50
Max diff after m.	5	5	5	5	5	5	5	5
Status	passed	passed	passed	passed	passed	passed	passed	passed

### Pressure Liquid Level Detection Test: **Passed**

#### Test Configuration Details

##### Common

Cycles:	6
Fluid:	Water

##### 200 Diti

##### Detection

Aspiration Speed [ul/sec]:	50.00
Aspiration Volume after pLLD [ul]:	0.0
Max Aspiration Volume [ul]:	200.0
Delay before pLLD activ [ms]:	350
Detection Speed [mm/sec]:	60.0
Liquid Conductivity:	Good
pLLD Mode:	pLLD and cLLD - tip after tip
Pressure Measuring	
Average composing [ms]:	200
Trigger [mbar]:	0.80
Min Trigger Puls Width [ms]:	4
Time between Average and Trigger [ms]:	10
Trigger on Pressure Slope if:	Negative

Blow out

PMP Device Test Device Serial Number: 16320200 Date: 02/Mar/2023 10:21:55 Page 4/5

Retract1 [mm]: 1.5  
 Dispense Speed1 [ul/sec]: 8.33  
 Volume1 [ul]: 6.7  
 Dispense Delay [ms]: 200  
 Retract2 [mm]: 4.0  
 Dispense Speed2 [ul/sec]: 200.00

**Pass / Fail Criteria**

pLLD and cLLD do find liquid  
 Max delay between cLLD and pLLD [msec]: 32

**Detailed Results**

	tip1	tip2	tip3	tip4	tip5	tip6	tip7	tip8
delay1 [msec]	22	18	20	22	22	18	20	20
delay2 [msec]	22	18	20	22	22	18	18	20
delay3 [msec]	20	18	20	22	22	18	18	20
delay4 [msec]	22	18	20	22	22	18	18	20
delay5 [msec]	22	18	20	22	22	16	18	20
delay6 [msec]	20	18	18	22	20	18	20	20
max delay [msec]	22	18	20	22	22	18	20	20
max z-diff [mm]	1.3	1.1	1.2	1.3	1.3	1.1	1.2	1.2
delay limit [msec]	32	32	32	32	32	32	32	32
status	passed	passed	passed	passed	passed	passed	passed	passed



## QC Report

### Liquid Handling System

LiquidSystem.dll Version: 1.16.1.0  
 Panel.dll Version: 1.23.1.0  
 Genesis.dll Version: 1.23.1.0  
 GUIExtensions.dll Version: 1.22.1.0  
 OSpp.dll Version: 1.21.1.0  
 Setup and Service Version: 7.3.1.0  
 Computer Name: BGPC011-evo

Instrument Type: EVO  
 Instrument Serial Number: 1610006680  
 Tools [Type, SN]: None specified  
 Date: 02/Mar/2023 10:27:35

**Test Result:** Passed  
**Tests done:** Not All  
**Test Configuration:** Default

**Operator:** field specialist      **Date:**      **Signature:**

#### Devices

**LiHa Arm**  
 Serial Number: 1610006681  
 Address: C5  
 Firmware Version: V1.80-02/2016  
 Bootware Version: V1.10-04/2007

#### Liquid Channel Configuration

	Tip Type	Pipetting Tubing	Syringe Volume [ul]
Tip 1	Disposable Tip Adapter	Standard	1250
Tip 2	Disposable Tip Adapter	Standard	1250
Tip 3	Disposable Tip Adapter	Standard	1250
Tip 4	Disposable Tip Adapter	Standard	1250
Tip 5	Disposable Tip Adapter	Standard	1250
Tip 6	Disposable Tip Adapter	Standard	1250
Tip 7	Disposable Tip Adapter	Standard	1250
Tip 8	Disposable Tip Adapter	Standard	1250

#### Aspiration Tubing Configuration

Tubing type: Standard

**Worktable:** worktable BGene PM

#### **FaWa Test: Not Applicable**

##### Test Configuration Details

Pass / Fail Criteria  
 Detailed Results

#### **Liquid Level Detection Test: Passed**

##### Test Configuration Details

LLD  
 Common  
 DiTi Type: 200 EDiti  
 Cycles: 15  
 Clot Error Limit [mm]: 4.0  
 Error Limit [mm]: 1.5

Tip Deviation Limit [mm]: 2.5  
 Air Gap [ul]: 30  
 LLD Speed [mm/sec]: 60.0  
 Clot LLD Speed [mm/sec]: 40.0  
 Source Liquid Conductivity: Bad  
 Prefill LLD Mode: Trough mode  
 Prefill Aspiration Acceleration [ul/sec<sup>2</sup>]: 7000  
 Prefill Aspiration Deceleration [ul/sec<sup>2</sup>]: 7000  
 Prefill Aspiration Speed [ul/sec]: 100  
 Prefill Dispense Acceleration [ul/sec<sup>2</sup>]: 15000  
 Prefill Dispense Deceleration [ul/sec<sup>2</sup>]: 30000  
 Prefill Dispense Speed [ul/sec]: 300  
 Prefill Submerge [mm]: 2.0  
 Retract Speed [mm/sec]: 20.0  
 User prompt on error: enabled

LLD Source Racks

	Name	FirstWell	WellCount
Trough (Prefill > 5ml)	C2.RR	1	1
Strip Rack	C2.RR	1	1

LLD Dest Racks

	Name	FirstWell	WellCount	Interleaved Wells
Trough (Prefill > 5ml)	C2.RR	1	1	0
Strip Rack	C3.R1	1	8	0

LLD Prefill Volume

	Tip1 [ul]	Tip2 [ul]	Tip3 [ul]	Tip4 [ul]	Tip5 [ul]	Tip6 [ul]	Tip7 [ul]	Tip8 [ul]
Trough (Prefill > 5ml)	0	0	0	0	0	0	0	0
Strip Rack	600	600	600	600	600	600	600	600

LLD Liquid

	Submerge [mm]	Liquid Conductivity	LLD Mode
Trough (Prefill > 5ml)	2.0	Good	Trough mode
Strip Rack	2.0	Good	Odd / even tips twice

Pass / Fail Criteria

'z-in-dev' smaller or equal 'Error Limit [mm]': 1.5  
 difference between smallest 'z-in-min' and greatest 'z-in-max'  
 smaller than 'Tip Deviation Limit [mm]': 2.5  
 'Liquid det err' equals 0  
 'Clot error' equals 0

How these results are achieved:

For tips that are expected to find liquid (prefill volume > 0 or destination is a trough):

- 1) 'Liquid det err' is incremented if no liquid is detected.
- 2) 'z-in-dev': max difference of the found levels measured over 'Cycles'.
- 3) 'Clot error' is incremented if no exit signal occurs within 'Clot Error Limit'.
- 4) 'Plausible' is 'no' if 'Tip Deviation Limit' is exceeded.

For tips that are not expected to find liquid (no prefill and destination is not a trough):

- 1) 'Liquid det err' is incremented if liquid is detected.
- 2) 'Clot error' is incremented if an exit signal occurs within 'Clot Error Limit'.

Detailed Results

Summary

	Tip 1	Tip 2	Tip 3	Tip 4	Tip 5	Tip 6	Tip 7	Tip 8
z-in-dev	0.3	0.4	0.2	0.1	0.2	0.3	0.3	0.1
Liquid det err	0	0	0	0	0	0	0	0
Clot error	0	0	0	0	0	0	0	0
Passed	yes	yes	yes	yes	yes	yes	yes	yes
Plausible	yes	yes	yes	yes	yes	yes	yes	yes
Overall passed	yes	yes	yes	yes	yes	yes	yes	yes

Plausibility Summary

	smallest 'z-in-min'	greatest 'z-in-max'	max deviation	Plausible
Value	90.5	91.3	0.8	yes



Trough (Prefill > 5ml)								
	Tip 1	Tip 2	Tip 3	Tip 4	Tip 5	Tip 6	Tip 7	Tip 8
z-in-min	90.9	90.7	91.0	90.5	90.9	90.6	91.0	90.8
z-in-max	91.0	90.9	91.2	90.6	91.1	90.9	91.3	90.9
z-in-dev	0.1	0.2	0.2	0.1	0.2	0.3	0.3	0.1
z-out-min	na	na	na	na	na	na	na	na
z-out-max	na	na	na	na	na	na	na	na
z-out-dev	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquid det err	0	0	0	0	0	0	0	0
Clot error	0	0	0	0	0	0	0	0
Passed	yes	yes	yes	yes	yes	yes	yes	yes
Plausible	yes	yes	yes	yes	yes	yes	yes	yes
Overall passed	yes	yes	yes	yes	yes	yes	yes	yes

Strip Rack								
	Tip 1	Tip 2	Tip 3	Tip 4	Tip 5	Tip 6	Tip 7	Tip 8
z-in-min	53.7	56.8	56.9	57.0	57.2	52.0	57.4	44.8
z-in-max	54.0	57.2	57.1	57.1	57.4	52.2	57.7	44.9
z-in-dev	0.3	0.4	0.2	0.1	0.2	0.2	0.3	0.1
z-out-min	na	na	na	na	na	na	na	na
z-out-max	na	na	na	na	na	na	na	na
z-out-dev	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquid det err	0	0	0	0	0	0	0	0
Clot error	0	0	0	0	0	0	0	0
Passed	yes	yes	yes	yes	yes	yes	yes	yes

**Gravimetric Pipetting Precision Test: Not Done**

Test Configuration Details

Pass / Fail Criteria

History

Detailed Results

**Colorimetric Pipetting Precision Test: Not Applicable**

Test Configuration Details

Pass / Fail Criteria

Detailed Results



## QC Report

## Safety Device Test

Safety.dll Version: 1.19.1.0  
Panel.dll Version: 1.23.1.0  
Genesis.dll Version: 1.23.1.0  
GUIExtensions.dll Version: 1.22.1.0  
OSpp.dll Version: 1.21.1.0  
Setup and Service Version: 7.3.1.0  
Computer Name: BGPC011-evo

Safety Serial Number: 16270013  
Instrument Type: EVO  
Instrument Serial Number: 1610006680  
Tools [Type, SN]: None specified  
Date: 02/Mar/2023 10:28:27

**Test Result:** Passed  
**Tests done:** All  
**Test Configuration:** Built in  
**Device Default Settings:** na

---

**Operator:** field specialist      **Date:**      **Signature:**

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**Device****Configuration**

Firmware Version: V1.30-04/2008  
Bootware Version: V1.10-12/99

**Available Options**

Door Lock 1 (left)  
Door Lock 2 (right)  
Alarm Device: standard  
Pause / Resume Button

**Door Lock Test: Passed****Test Configuration Details**

The door lock test is performed once

**Pass / Fail Criteria**

All questions about the door locks are confirmed with OK  
The sensors recognize the open/locked status correctly

**Detailed Results**

Door Lock 1 (left): Passed  
Door Lock 2 (right): Passed

**Pause / Resume Button Test: Passed****Test Configuration Details**

The Pause / Resume button test is performed once

**Pass / Fail Criteria**

Pause Button interrupts received correctly

**Detailed Results**

Pause / Resume Button: Passed

Safety Device Test    Device Serial Number: 16270013    Date: 02/Mar/2023 10:28:27    Page 1/2

**Alarm Device Test: Passed****Test Configuration Details**

The alarm device test is performed once

**Pass / Fail Criteria**

All questions about the alarm device are confirmed with OK

**Detailed Results**

Alarm Green: Passed  
Alarm Red / Acoustic: Passed



## QC Report

### System Move Test

MoveTest.dll Version: 1.23.1.0  
 Panel.dll Version: 1.23.1.0  
 Genesis.dll Version: 1.23.1.0  
 GUIExtensions.dll Version: 1.22.1.0  
 OSpp.dll Version: 1.21.1.0  
 Setup and Service Version: 7.3.1.0  
 Computer Name: BGPC011-evo

Instrument Type: EVO  
 Instrument Serial Number: 1610006680  
 Tools [Type, SN]: None specified  
 Date: 02/Mar/2023 12:32:13

**Test Result:** Passed  
**Tests done:** Not All  
**Test Configuration:** User Defined

**Operator:** field specialist      **Date:**      **Signature:**

#### Range Move Test: *Not Done*

##### Test Configuration Details

Axes selection: See detailed results.  
 Moves: Selected axes move once to their extreme positions.  
 Initializations: Selected axes are initialized once.

##### Pass / Fail Criteria

Deviation Limit: See detailed results.

##### Detailed Results

#### Random Move Test: *Passed*

##### Test Configuration Details

Axes selection: See detailed results.  
 Duration [Cycles]: 600  
 Re-Init Interval [Cycles]: 200

##### Pass / Fail Criteria

Deviation Limit: See detailed results.

##### Detailed Results

LiHa C5					
	Maximal Deviation	Deviation Limit	Exceed Counter	Move Counter	Distance
X	0.012 mm	0.1 mm	0	601	88
Y	0.028 mm	0.1 mm	0	609	81
Ys	0.028 mm	0.2 mm	0	594	74
Z1	0.031 mm	0.1 mm	0	1201	121
Z2	0.031 mm	0.1 mm	0	1203	125
Z3	0.008 mm	0.1 mm	0	1203	127
Z4	0.016 mm	0.1 mm	0	1203	124
Z5	0.016 mm	0.1 mm	0	1203	128
Z6	0.023 mm	0.1 mm	0	1201	129
Z7	0.008 mm	0.1 mm	0	1199	130
Z8	0.016 mm	0.1 mm	0	1201	121

MCA W1

	Maximal Deviation	Deviation Limit	Exceed Counter	Move Counter	Distance
X	0.000 mm	0.1 mm	0	603	95
Y	0.031 mm	0.1 mm	0	595	59
Z	0.002 mm	0.1 mm	0	1200	127
G	0.008 mm	0.1 mm	0	602	12
P	0.014 mm	0.1 mm	0	600	6

System Move Test Instrument Serial Number: 1610006680 Date: 02/Mar/2023 12:32:13 Page 2/2

## Plate Reader Calibration Report



**QC Kit Software Version:** 1.0.0.9  
**Reader Type:** Tecan infinite F50  
**Reader Serial Number:** 1312002155  
**Calibrator Plate Serial Number:** 1490  
**Calibration Run Date and Time:** 02 mars 2023, 11:02:47 GMT1  
**Calibrator Plate Expiration Date:** 28 sept 2023

**Valid Value Test:** Passed  
**Plate Integrity Test:** Passed  
**Repeatability Test:** Passed  
**Linearity Test:** Passed  
**Accuracy Test:** Passed  
**Overall status:** Passed

### Absorbance Readings at 520.2 nm

Cuvette	Reference value	Test value	Difference	Specification	Status
1	0.0308	0.0371	0.0063	+0.0112/-0.0112	Passed
2	0.3470	0.3424	-0.0046	+0.0207/-0.0207	Passed
3	1.0402	1.0456	0.0054	+0.0357/-0.0357	Passed
4	2.0395	2.0485	0.0090	+0.0620/-0.0620	Passed

\*All values given in absorbance units.

### Absorbance Readings at 730.5 nm

Cuvette	Reference value	Test value	Difference	Specification	Status
1	0.0454	0.0509	0.0055	+0.0137/-0.0137	Passed
2	0.4258	0.4124	-0.0134	+0.0246/-0.0246	Passed
3	0.4260	0.4132	-0.0128	+0.0246/-0.0246	Passed
4	0.4257	0.4139	-0.0118	+0.0246/-0.0246	Passed

\*All values given in absorbance units.

The Tecan QC Kit and its components are based on Artel technology and are covered by patents listed at: [www.artel.co/patents](http://www.artel.co/patents)

## QC Kit Test Report



**QC Kit Software Version:** 1.0.0.9  
**Date:** 02 mars 2023  
**Time:** 11:06:20 GMT1  
**Liquid Handler Device ID:** EVO 150 BGENE  
**Liquid Handler Device Serial Number:** 1610006680  
**Liquid Handler Device Description:** EVO 150 BGENE  
**Layout ID:** AirLiHa 8 (Custom Test)  
**Layout Description:** Air LiHa 8 channel D200 N10  
**Channels:** 8  
**Plate Description:** 96-well QC Kit Verification Plate  
**Dispense Direction:** Left to Right  
**Device Orientation:** Vertical

### Group 1 Statistics

Target volume (µL)	10
Target solution	QC Kit Range B
Number of data points per channel	12
Mean volume for all channels (µL)	10.0979
Standard deviation for all channels (µL)	0.0829
Coefficient of variation (CV) for all channels	0.82%
Coefficient of variation pass/fail limit	2%
Status based on channel results	Passed
Status based on run statistics	Passed

### Group 1 Well Volumes (µL)

	1	2	3	4	5	6	7	8	9	10	11	12
A	10.194	10.112	10.071	10.091	10.056	10.022	10.065	10.085	10.084	10.100	10.117	10.088
B	10.071	10.080	10.071	10.049	10.011	10.018	10.029	10.034	9.983	10.035	10.051	9.995
C	10.148	10.118	10.113	10.105	10.067	10.056	10.112	10.104	10.093	10.061	10.052	10.074
D	10.131	10.098	10.069	10.043	10.010	10.005	10.049	10.044	10.058	10.079	10.071	10.059
E	10.234	10.153	10.108	10.058	10.027	10.007	10.042	10.119	10.091	10.147	10.170	10.095
F	10.072	10.075	10.051	10.039	10.026	10.043	10.090	10.041	10.046	10.063	10.073	10.067
G	10.130	10.118	10.082	10.089	10.044	10.072	10.067	10.055	10.084	10.090	10.111	10.093
H	10.620	10.250	10.224	10.208	10.204	10.210	10.188	10.235	10.235	10.225	10.253	10.244

### Group 1 Channel Statistics

Channel	Mean Volume	Standard Deviation	CV	Status

1	10.0904	0.0415	0.41%	Passed
2	10.0356	0.0306	0.30%	Passed
3	10.0919	0.0298	0.30%	Passed
4	10.0597	0.0347	0.34%	Passed
5	10.1043	0.0656	0.65%	Passed
6	10.0572	0.0189	0.19%	Passed
7	10.0863	0.0252	0.25%	Passed
8	10.2580	0.1157	1.13%	Passed

**Group 1 Dispense Order Statistics**

Dispense	Mean Volume	Standard Deviation	CV
1	10.2000	0.1785	1.75%
2	10.1255	0.0560	0.55%
3	10.0986	0.0547	0.54%
4	10.0853	0.0554	0.55%
5	10.0556	0.0633	0.63%
6	10.0541	0.0673	0.67%
7	10.0803	0.0510	0.51%
8	10.0896	0.0665	0.66%
9	10.0843	0.0710	0.70%
10	10.1000	0.0603	0.60%
11	10.1123	0.0695	0.69%
12	10.0894	0.0702	0.70%

**Plate Reader**

<b>Reader Type</b>	Tecan infinite F50
<b>Serial Number</b>	1312002155
<b>Calibrated</b>	02 mars 2023

**Materials**

Item Description	Lot or Serial No.	Expiration Date
QC Kit Calibrator Plate	1490	28 sept 2023
QC Kit Baseline solution	Z040422241	04 avr 2024
QC Kit Verification Plate - Baseline	03921026-101038	27 oct 2026
QC Kit Range B solution	B122021241	20 déc 2023
QC Kit Diluent solution	U070622241	06 juil 2024



QC Kit Verification Plate	03921026-101039	27 oct 2026
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**\* Measurements made with the Tecan QC Kit 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 Physical Laboratory, UK (NPL).**

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## QC Kit Test Report



**QC Kit Software Version:** 1.0.0.9

**Date:** 02 mars 2023

**Time:** 11:14:53 GMT1

**Liquid Handler Device ID:** EVO150 BGENE MCA96

**Liquid Handler Device Serial Number:** 1610006680

**Liquid Handler Device Description:** EVO 150 BGENE MCA 96

**Layout ID:** QC\_v\_MCA96\_D200\_N\_2 (Tecan Qualified Test)

**Layout Description:** SW: EVO; Baseline Script: QC\_b\_MCA96\_D200\_N; other: N/A

**Channels:** 96

**Plate Description:** 96-well QC Kit Verification Plate

### Run Statistics

Target Volume (µL)	2
Target solution	QC Kit Range C
Number of data points per channel	1
Mean volume for all channels (µL)	<b>2.0417</b>
Standard deviation for all channels (µL)	0.0294
Coefficient of variation (CV) for all channels	<b>1.44%</b>
Coefficient of variation pass/fail limit	6%
Status based on run statistics	<b>Passed</b>

### Volumes for Plate 1 (µL)

	1	2	3	4	5	6	7	8	9	10	11	12
A	1.971	1.983	1.983	1.933	2.015	2.033	2.024	2.021	2.018	2.044	2.042	2.017
B	1.967	1.991	1.956	2.030	2.053	2.038	2.029	2.018	2.086	2.038	2.067	2.057
C	2.041	2.025	2.017	2.022	2.026	2.008	2.024	2.027	2.007	2.029	2.031	2.040
D	2.006	2.053	2.054	2.034	2.053	2.047	2.051	2.037	2.047	2.060	2.072	2.060
E	2.063	2.017	2.033	2.012	2.028	2.038	2.024	2.028	2.049	2.032	2.065	2.049
F	2.069	2.062	2.075	2.030	2.048	2.048	2.055	2.043	2.058	2.051	2.080	2.097
G	2.078	2.068	2.064	2.051	2.056	2.055	2.064	2.059	2.063	2.064	2.068	2.080
H	2.053	2.073	2.104	2.066	2.060	2.059	2.035	2.068	2.069	2.062	2.069	2.080

### Plate 1 Statistics

Mean Volume (µL)	2.0417
Standard Deviation (µL)	0.0294
Coefficient of Variation	1.44%

### Channel Mean Volume (µL)

	1	2	3	4	5	6	7	8	9	10	11	12
<b>A</b>	1.9710	1.9830	1.9830	1.9330	2.0150	2.0330	2.0240	2.0210	2.0180	2.0440	2.0420	2.0170
<b>B</b>	1.9670	1.9910	1.9560	2.0300	2.0530	2.0380	2.0290	2.0180	2.0860	2.0380	2.0670	2.0570
<b>C</b>	2.0410	2.0250	2.0170	2.0220	2.0260	2.0080	2.0240	2.0270	2.0070	2.0290	2.0310	2.0400
<b>D</b>	2.0060	2.0530	2.0540	2.0340	2.0530	2.0470	2.0510	2.0370	2.0470	2.0600	2.0720	2.0600
<b>E</b>	2.0630	2.0170	2.0330	2.0120	2.0280	2.0380	2.0240	2.0280	2.0490	2.0320	2.0650	2.0490
<b>F</b>	2.0690	2.0620	2.0750	2.0300	2.0480	2.0480	2.0550	2.0430	2.0580	2.0510	2.0800	2.0970
<b>G</b>	2.0780	2.0680	2.0640	2.0510	2.0560	2.0550	2.0640	2.0590	2.0630	2.0640	2.0680	2.0800
<b>H</b>	2.0530	2.0730	2.1040	2.0660	2.0600	2.0590	2.0350	2.0680	2.0690	2.0620	2.0690	2.0800

**Plate Reader**

<b>Reader Type</b>	Tecan infinite F50
<b>Serial Number</b>	1312002155
<b>Calibrated</b>	02 mars 2023

**Materials**

Item Description	Lot or Serial No.	Expiration Date
QC Kit Calibrator Plate	1490	28 sept 2023
QC Kit Baseline solution	Z040422241	04 avr 2024
QC Kit Verification Plate - Baseline	03921026-101038	27 oct 2026
QC Kit Range C solution	C042321241	23 avr 2023
QC Kit Diluent solution	U070622241	06 juil 2024
QC Kit Verification Plate 1	03921026-101037	27 oct 2026

\* Measurements made with the Tecan QC Kit 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 Physical Laboratory, UK (NPL).

*The Tecan QC Kit and its components are based on Artel technology and are covered by patents listed at: [www.artel.co/patents](http://www.artel.co/patents)*

## QC Kit Test Report



**QC Kit Software Version:** 1.0.0.9

**Date:** 02 mars 2023

**Time:** 11:23:32 GMT1

**Liquid Handler Device ID:** EVO150 BGENE MCA96

**Liquid Handler Device Serial Number:** 1610006680

**Liquid Handler Device Description:** EVO 150 BGENE MCA 96

**Layout ID:** QC\_v\_MCA96\_D200\_N\_2 (Tecan Qualified Test)

**Layout Description:** SW: EVO; Baseline Script: QC\_b\_MCA96\_D200\_N; other: N/A

**Channels:** 96

**Plate Description:** 96-well QC Kit Verification Plate

### Run Statistics

Target Volume (µL)	2
Target solution	QC Kit Range C
Number of data points per channel	1
Mean volume for all channels (µL)	<b>2.1304</b>
Standard deviation for all channels (µL)	0.0332
Coefficient of variation (CV) for all channels	<b>1.56%</b>
Coefficient of variation pass/fail limit	6%
Status based on run statistics	<b>Passed</b>

### Volumes for Plate 1 (µL)

	1	2	3	4	5	6	7	8	9	10	11	12
A	2.080	2.106	2.110	2.095	2.122	2.111	2.103	2.116	2.126	2.108	2.153	2.111
B	2.092	2.108	2.073	2.066	2.105	2.094	2.169	2.134	2.141	2.102	2.121	2.124
C	2.033	2.051	2.088	2.075	2.086	2.097	2.160	2.139	2.151	2.139	2.143	2.172
D	2.101	2.114	2.107	2.103	2.089	2.104	2.157	2.135	2.161	2.183	2.160	2.141
E	2.111	2.103	2.110	2.096	2.110	2.119	2.114	2.145	2.164	2.173	2.152	2.154
F	2.135	2.114	2.127	2.115	2.133	2.123	2.136	2.164	2.164	2.143	2.148	2.201
G	2.118	2.128	2.141	2.133	2.120	2.166	2.159	2.172	2.190	2.147	2.145	2.219
H	2.135	2.121	2.151	2.133	2.143	2.143	2.162	2.171	2.149	2.183	2.169	2.204

### Plate 1 Statistics

Mean Volume (µL)	2.1304
Standard Deviation (µL)	0.0332
Coefficient of Variation	1.56%

### Channel Mean Volume (µL)

	1	2	3	4	5	6	7	8	9	10	11	12
<b>A</b>	2.0800	2.1060	2.1100	2.0950	2.1220	2.1110	2.1030	2.1160	2.1260	2.1080	2.1530	2.1110
<b>B</b>	2.0920	2.1080	2.0730	2.0660	2.1050	2.0940	2.1690	2.1340	2.1410	2.1020	2.1210	2.1240
<b>C</b>	2.0330	2.0510	2.0880	2.0750	2.0860	2.0970	2.1600	2.1390	2.1510	2.1390	2.1430	2.1720
<b>D</b>	2.1010	2.1140	2.1070	2.1030	2.0890	2.1040	2.1570	2.1350	2.1610	2.1830	2.1600	2.1410
<b>E</b>	2.1110	2.1030	2.1100	2.0960	2.1100	2.1190	2.1140	2.1450	2.1640	2.1730	2.1520	2.1540
<b>F</b>	2.1350	2.1140	2.1270	2.1150	2.1330	2.1230	2.1360	2.1640	2.1640	2.1430	2.1480	2.2010
<b>G</b>	2.1180	2.1280	2.1410	2.1330	2.1200	2.1660	2.1590	2.1720	2.1900	2.1470	2.1450	2.2190
<b>H</b>	2.1350	2.1210	2.1510	2.1330	2.1430	2.1430	2.1620	2.1710	2.1490	2.1830	2.1690	2.2040

**Plate Reader**

<b>Reader Type</b>	Tecan infinite F50
<b>Serial Number</b>	1312002155
<b>Calibrated</b>	02 mars 2023

**Materials**

Item Description	Lot or Serial No.	Expiration Date
QC Kit Calibrator Plate	1490	28 sept 2023
QC Kit Baseline solution	Z040422241	04 avr 2024
QC Kit Verification Plate - Baseline	03921026-101038	27 oct 2026
QC Kit Range C solution	C042321241	23 avr 2023
QC Kit Diluent solution	U070622241	06 juil 2024
QC Kit Verification Plate 1	03921026-101036	27 oct 2026

**\* Measurements made with the Tecan QC Kit 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 Physical Laboratory, UK (NPL).**

*The Tecan QC Kit and its components are based on Artel technology and are covered by patents listed at: [www.artel.co/patents](http://www.artel.co/patents)*

## QC Kit Test Report



**QC Kit Software Version:** 1.0.0.9

**Date:** 02 mars 2023

**Time:** 11:28:25 GMT1

**Liquid Handler Device ID:** EVO150 BGENE MCA96

**Liquid Handler Device Serial Number:** 1610006680

**Liquid Handler Device Description:** EVO 150 BGENE MCA 96

**Layout ID:** QC\_v\_MCA96\_D200\_N\_2 (Tecan Qualified Test)

**Layout Description:** SW: EVO; Baseline Script: QC\_b\_MCA96\_D200\_N; other: N/A

**Channels:** 96

**Plate Description:** 96-well QC Kit Verification Plate

### Run Statistics

Target Volume (µL)	2
Target solution	QC Kit Range C
Number of data points per channel	1
Mean volume for all channels (µL)	<b>2.1191</b>
Standard deviation for all channels (µL)	0.0324
Coefficient of variation (CV) for all channels	<b>1.53%</b>
Coefficient of variation pass/fail limit	6%
Status based on run statistics	<b>Passed</b>

### Volumes for Plate 1 (µL)

	1	2	3	4	5	6	7	8	9	10	11	12
A	2.091	2.088	2.088	2.082	2.109	2.108	2.086	2.100	2.121	2.156	2.130	2.116
B	2.078	2.119	2.089	2.071	2.115	2.130	2.155	2.139	2.162	2.140	2.117	2.158
C	2.017	2.045	2.094	2.057	2.049	2.095	2.112	2.097	2.125	2.114	2.089	2.116
D	2.109	2.085	2.108	2.120	2.093	2.084	2.097	2.131	2.143	2.104	2.132	2.157
E	2.101	2.073	2.080	2.073	2.117	2.083	2.083	2.087	2.113	2.115	2.114	2.132
F	2.132	2.107	2.122	2.095	2.110	2.124	2.159	2.167	2.181	2.196	2.144	2.163
G	2.123	2.116	2.123	2.147	2.128	2.138	2.141	2.143	2.160	2.141	2.136	2.156
H	2.136	2.140	2.130	2.132	2.145	2.128	2.153	2.160	2.197	2.168	2.152	2.146

### Plate 1 Statistics

Mean Volume (µL)	2.1191
Standard Deviation (µL)	0.0324
Coefficient of Variation	1.53%

### Channel Mean Volume (µL)

	1	2	3	4	5	6	7	8	9	10	11	12
<b>A</b>	2.0910	2.0880	2.0880	2.0820	2.1090	2.1080	2.0860	2.1000	2.1210	2.1560	2.1300	2.1160
<b>B</b>	2.0780	2.1190	2.0890	2.0710	2.1150	2.1300	2.1550	2.1390	2.1620	2.1400	2.1170	2.1580
<b>C</b>	2.0170	2.0450	2.0940	2.0570	2.0490	2.0950	2.1120	2.0970	2.1250	2.1140	2.0890	2.1160
<b>D</b>	2.1090	2.0850	2.1080	2.1200	2.0930	2.0840	2.0970	2.1310	2.1430	2.1040	2.1320	2.1570
<b>E</b>	2.1010	2.0730	2.0800	2.0730	2.1170	2.0830	2.0830	2.0870	2.1130	2.1150	2.1140	2.1320
<b>F</b>	2.1320	2.1070	2.1220	2.0950	2.1100	2.1240	2.1590	2.1670	2.1810	2.1960	2.1440	2.1630
<b>G</b>	2.1230	2.1160	2.1230	2.1470	2.1280	2.1380	2.1410	2.1430	2.1600	2.1410	2.1360	2.1560
<b>H</b>	2.1360	2.1400	2.1300	2.1320	2.1450	2.1280	2.1530	2.1600	2.1970	2.1680	2.1520	2.1460

**Plate Reader**

<b>Reader Type</b>	Tecan infinite F50
<b>Serial Number</b>	1312002155
<b>Calibrated</b>	02 mars 2023

**Materials**

Item Description	Lot or Serial No.	Expiration Date
QC Kit Calibrator Plate	1490	28 sept 2023
QC Kit Baseline solution	Z040422241	04 avr 2024
QC Kit Verification Plate - Baseline	03921026-101038	27 oct 2026
QC Kit Range C solution	C042321241	23 avr 2023
QC Kit Diluent solution	U070622241	06 juil 2024
QC Kit Verification Plate 1	03921026-101035	27 oct 2026

**\* Measurements made with the Tecan QC Kit 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 Physical Laboratory, UK (NPL).**

*The Tecan QC Kit and its components are based on Artel technology and are covered by patents listed at: [www.artel.co/patents](http://www.artel.co/patents)*

Calibration Plate.pdf

Calibration Number: 22-02002  
Serial Number: 1490

**Uncertainty:**

Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .


**Additional Information:**

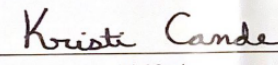
The Calibrator Plate is used to normalize the absorbance measurements made by the microplate reader to correlate with those made by a reference spectrophotometer. The EVOware software obtains critical information from the barcode concerning the absorbance standards used in the Calibrator Plate, then compares and adjusts the readings of the microplate reader accordingly.

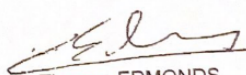
The contents of the Calibrator Plate are subject to degradation with time, extreme temperature changes, and prolonged exposure to light. The Calibrator Plate should be stored in darkness in its case at room temperature (15°C to 25°C) between uses to ensure the shelf life. Prior to use, the Calibrator Plate should be thermally equilibrated to room temperature. Handle the Calibrator Plate with extreme care, and adhere to the cleaning procedures described in the QC Kit directions for use.

The A2LA symbol does not imply certification/approval of the products, but rather accreditation of the competency of the Artel Laboratory to perform this calibration. This calibration certificate shall not be reproduced except in full, without written approval of the Artel Laboratory.

The Calibrator Plate is covered by patents listed at <http://www.artel.co/patents>

Performed by:  Date: 17 Jun 2022  
Technician: Julius Spaltro

Authorized by:  Date: 17 Jun 2022  
Technical Manager: Kristi Cande

  
Thomas EDMONDS  
le 08/08/2022

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**ARTEL**

25 Bradley Drive, Westbrook, Maine 04092-2013, USA  
 tel: 207-854-0860 / fax: 207-854-0867 / email: info@artel.co / web: www.artel.co

**QC Kit Calibrator Plate  
Calibration Certificate**

Calibration Number: 22-02002  
 Test Type: As Found/As Left  
 Serial Number: 1490

Customer: Tecan  
 Address: Seestrasse 103  
 8708 Maennedorf  
 Switzerland  
 EUROPE

Issue Date: 17 Jun 2022  
 Test Date: 17 Jun 2022  
 Expiration Date: 28 Sep 2023

\*Calibrator Plate was decontaminated and calibrated.

**Description of Item Calibrated:**

The QC Kit Calibrator Plate is used to ensure the performance of each QC Kit system. The Calibrator Plate is an absorbance standard that contains sealed cuvettes and a neutral density glass filter. The absorbance of each of these components is measured at 520.2 nm and 730.5 nm. The absorbance readings are corrected to a reference temperature of 25°C.

**Traceability:**

Calibration is performed on a Cary UV/VIS Spectrophotometer, Serial Number EL05073629 or MY16020009. These instruments are calibrated annually and verified monthly using standards traceable to the International System of Units (SI) through the National Physical Laboratory, UKAS No. 0478 and Starna Scientific Ltd Calibration Lab, UKAS No. 0659, Certified Reference Materials RM-NIN35N Serial Number 7308 calibration due on 02 Jun 2026, RM-IN2N3N Serial Number 7232 calibration due on 02 Jun 2026, and RM-DID39N Serial Number 8984 calibration due on 02 Jun 2026, or RM-SRM9ND Serial Number 33877 calibration due on 28 Jan 2023.


**Calibration Method Document Number: 310A4874**

This calibration method has been accredited to ISO/IEC 17025, A2LA Certificate #2093-03.

The measured values reported below are embedded in the barcode on the Calibrator Plate.

Sample	520.2 nm Absorbance (A) median reading Temp corrected 25°C n=3	Uncertainty K=2	730.5 nm Absorbance (A) median reading Temp corrected 25°C n=3	Uncertainty K=2
Neutral Density Filter	1.1573	0.0026	0.8730	0.0020
Cuvette 1	0.0357	0.0013	0.0396	0.0013
Cuvette 2	0.4016	0.0020	0.3717	0.0021
Cuvette 3	1.2038	0.0035	0.3719	0.0021
Cuvette 4	2.3603	0.0060	0.3716	0.0021

These results relate only to the Calibrator Plate identified in this report.



Artel Laboratory  
CALIBRATION CERTIFICATE # 2093-03

Page 1 of 2

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Certificate EVO Service.pdf



# Certificate.

This is to certify that

**Sacha Pinto Da Silva**

Employee of Tecan France S.A.

has successfully completed the training

**Freedom EVO® Service**

and has passed the test.

Awarded on 2022-10-14

Valid until the earlier of 2024-10-14 or termination of employment with Tecan France S.A.

Trainer

Ivan Tramontana



Template: 10400TM03\_V1.0, 2016-03-22

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