

Name

Contact Person

Address

**Purpose**

The purpose of this approval page is to replace the single signatures on each document listed below. With signing this document the signatories approve and accept the content of all listed documents, and agree that the testing results meet specified business, quality requirements and any exemptions noted within the report. The detailed meaning of the signature is defined at the fields Tecan Service Technician and Customer.

Note: It may be found in the document bundle Tecan Service Technician signature/ date fields are empty. Depending on the configuration of instrument, sections of documents can be omitted and may not be displayed. Tecan accepts and judge these as - NOTAPPLICABLE – fields related to the scope of the document.

**Statement of disclaimer**

This document is issued electronically and remains the exclusive property of Tecan and may not be manipulated or reproduced in any form, without prior written permission from Tecan.

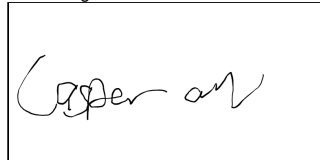
**List of documents**

Date	Document Name	Description
31.10.2022	ServiceReport_4488042_Københavns Universitet.pdf	Service Report
31.10.2022	PSC_392819_PM-FreedomEVO.pdf	
31.10.2022	Basic_info.pdf	Basic_info.pdf
31.10.2022	Tip_adapter_Test.pdf	Tip_adapter_Test.pdf
31.10.2022	Liquid_Tests.pdf	Liquid_Tests.pdf
31.10.2022	LDE_Test.pdf	LDE_Test.pdf
31.10.2022	PosID_Tests.pdf	PosID_Tests.pdf
31.10.2022	Safety_Test.pdf	Safety_Test.pdf
31.10.2022	Te-vacs_Tests.pdf	Te-vacs_Tests.pdf
31.10.2022	Te-shake_Test.pdf	Te-shake_Test.pdf
31.10.2022	Gravimetric_Test.pdf	Gravimetric_Test.pdf
31.10.2022	Balance, C146996518, 20211130.pdf	Balance, C146996518, 20211130.pdf
31.10.2022	EVO_Basic_ServiceCertificate.pdf	EVO_Basic_ServiceCertificate.pdf

**Tecan Service technician:**
**Meaning of the signature:**

I herewith confirm that I have authored the above listed documents. I have checked the testing results and inspection data, and confirm that they meet Tecan's specified requirements for equipment operation. I approve the data based on the scope of my responsibility and expertise.

Date of signature: 31.10.2022



Tecan service technicians will provide customer with complete service order documentation. Customer signature is required for any servicing or required testing exemptions.

**Customer:**
**Customer Meaning of the signature:**

I herewith confirm that I have reviewed, accepted and approved the content of the above listed documents. I herewith accept the testing results and inspection data based on the scope of my responsibility and expertise. The content of the documents meets all applicable business and quality requirements and reflects the procedures described.

Date of signature: 31.10.2022



Service order number	4488042	Phone	+4524852882
Customer's adress	Københavns Universitet Frederik V's Vej 11 DK-2100 København Ø	Contact person	Ragnar Thomsen
		Date call received	10.08.2022
		Date of service	31.10.2022
		PO number	32485

Equipment number	10746762	Serial number	1109006235
UDI			
Equipment description	INSTRUMENT FREEDOM EVO 200 BASE UNIT		
Symptoms - Group code	999	Symptoms - Coding	030

Solution/Corrective action	2022-10-31 4:58 PM CET CA082001 Casper Olsen: PM Done. Instrument tested and found OK. Roma reference plate test skipped due to modified fingers. Random move test skipped due to obstructed worktable. Tips used: PN 10612553 Lot 5119539 Exp 2025-12
----------------------------	---

BC (Bill Code): Z1 = Good will Z2 = Warranty Z3 = To be invoiced Z4 = Warranty on Repair  
Z5 = Contract Z6 = Installation

Component	Description	Quantity	Serial # Added	Serial # Removed	BC
30096396	KIT MAINT. ANUAL V2 DITI 8 EVO 200	1			Z5
10619863	CABLE ILID SET 4 PCE. GENESIS FREEDOM	2			Z5
30198166	ADAPTER TIP SLIDER STD. W/O PMP SPARE	8			Z5
10649031	SPRING GAS PANEL FRONT FREEDOM EVO	2			Z5

Instrument status at time of service report

- Repaired - Normal Utilization can continue
- Fault/Defect not reproducible - Normal utilization can continue
- Fault/Defect still present
- ✓ Maintenance Done
- Installation Done

Date	Work Hours (hh:mm)	BC	Travel Hours (hh:mm)	BC	Distance	BC
31.10.2022	8:00	Z5	2:00	Z5		

**Verification tools used**

\* Serial number or batch ID will be listed if applicable for tool

Tool Description	Serial #	Batch #
BALANCE MODULE WXS205SDU/15	C146996518	-

## 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 #	000004488042
Contact person	Københavns Universitet
Performed By	Casper Olsen ( <a href="mailto:casper.olsen@tecan.com">casper.olsen@tecan.com</a> )

**Instrument information**

Instrument	INSTRUMENT FREEDOM EVO 200 BASE UNIT; Københavns Universitet
Code	10746762; 121897-121897
Serial Number	1109006235;

**2. Configuration**

Safety label	Please update equipment configuration prior to capture of any values.
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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	200
Front Safety Panel	CLOSED

**2.2. Freedom EVO Arm**

Arm LiHa 1	YES
Arm LiHa 2	NO
Arm Air LiHa 1	NO
Arm Air LiHa 2	NO
Arm MCA384	NO
Arm MCA96	NO
Arm PNP	NO
Arm RoMa Long 1	NO
Arm RoMa Long 2	NO
Arm RoMa Std 1	YES
Arm RoMa Std 2	NO

**2.3. Channels LiHa 1**
**LiHa 1 Channel 1**

Syringe Type	1000µL
Tubing Type	STANDARD TUBING

**LiHa 1 Channel 2**

Syringe Type	1000µL
Tubing Type	STANDARD TUBING

**LiHa 1 Channel 3**

Syringe Type	1000µL
Tubing Type	STANDARD TUBING

**LiHa 1 Channel 4**

Syringe Type	1000µL
Tubing Type	STANDARD TUBING

**LiHa 1 Channel 5**

Syringe Type	1000µL
Tubing Type	STANDARD TUBING

**LiHa 1 Channel 6**

Syringe Type	1000µL
Tubing Type	STANDARD TUBING

**LiHa 1 Channel 7**

Syringe Type	1000µL
Tubing Type	STANDARD TUBING

**LiHa 1 Channel 8**

Syringe Type	1000µL
Tubing Type	STANDARD TUBING

**2.6. Options**

Wash Refill	NO
Dust Cover	YES
Te-Shake	YES
Te-MagS	NO
Te-Link	NO
Te-Stack	NO
Te-VacS	YES
Te-PoolSafe	NO
PosID-3	YES
Multisense (PMP)	NO
Te-Fill	NO
Te-PS	NO

**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. 10301TMT01]	Out of Box Quality Report (393030)
Document [No. 40205TMT01]	Certificate Of Decontamination (CoD)

**4. Actions**

**Please proceed to the next chapter**

**4.1. System**

System			
Task	Interval	Further Description	Status
Air filter in dust cover	Every PM	Replace as needed	N/A
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	Done

**4.2. Liquid LiHa**

Liquid 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
Fixed Tips	12 months	Replace	N/A
DiTi Cone and Tube Extension	12 months	Replace	Done
Waste Tubing	12 months	Check condition	Done
Waste Tubing	12 months	Replace if damaged, clogged or dirty	Done
Diluters	12 months	Replace syringes	Done
Diluters	12 months	Replace 3-way valves	Done
Liquid System	12 months	Replace aspirating tubing	Done
Liquid System	12 months	Replace interconnecting tubing	Done
Liquid System	12 months	Replace pipetting tubing	Done
Tip Adapter	24 months	Replace Tip Adapter (DiTi systems only)	Done
Liquid Detection	24 months	Replace ILID cables	Done

#### 4.6. RoMa

RoMa

Task	Interval	Further description	Status
Arm	12 months	Visually inspect	Done
Z-Rod	12 months	Clean	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	N/A
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

#### 4.13. System Devices / LiHa

System Devices / LiHa

Test	Acceptance Criteria / Further description	Status
Verify Reference Positions	Reference positions accurately	Passed
Tip Adapter Test	Test passed with all available DiTi channels	Passed
Flush tips once sequentially	Order of pipetting tubing is correct	Passed

#### 4.14. Liquid System / DiTi Test (LiHa)

Liquid System / DiTi Test (LiHa)

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

#### 4.20. Liquid System / Liquid System (LiHa)

Disclaimer

It's required to perform this test by using conductive tips only!

Liquid System / Liquid System (LiHa)

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

#### 4.22. Liquid System / Liquid System

Disclaimer

It's required to perform this test by using conductive tips only!

Liquid System / Liquid System

Test (A minimum of 2 tests need to be performed)	Acceptance Criteria / Further description	Status
FaWa Test	Test passed with all available channels	Passed

#### 4.23. Liquid LiHa Precision Test

Precision Test Method

Gravimetric

##### Tip Type

DiTi 200µl

☒ YES ☐ NO

##### Non-standard Configuration

##### 4.23.1. Liquid LiHa Gravimetric Precision Test

Disclaimer

It's required to perform the tests at all indicated volumes of the appropriate tip configuration by using conductive tips only!

##### Tip Types

##### DiTi 200µl

Liquid System Configuration

Syringe 1000µl, 250µl or 500µl

Acceptance Criteria / Further Description

Test passed at 10µl with CV ≤ 3.5% and at 100µl with CV ≤ 0.75%

Status

Passed

#### 4.26. System Devices / RoMa

System Devices / RoMa

Test	Acceptance Criteria / Further description	Status
Reference Plate Test	Passed with 10 cycles	N/A

#### 4.33. System Devices / PosID

System Devices / PosID

Test	Acceptance Criteria / Further description	Status
Reading Position (PosID-3)	Test passed	Passed
No Tube Sensor	Test passed	Passed
Barcode Reading	Test passed with 5 cycles	Passed

**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!

**4.38. Options / Te-Shake**

Options / Te-Shake

Test	Acceptance Criteria / Further description	Status
Te-Shake	Test passed	Passed

**4.39. Options / Te-VacS**

Options / Te-VacS

Test	Acceptance Criteria / Further description	Status
Te-VacS	Test passed	Passed

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

Disclaimer

Please check N/A if there are no 3rd Party Devices installed.

N/A

☒ YES ☐ NO

**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

Task	Acceptance Criteria / Further Description	Status
Connect EVO PC to the internet and prepare it for remote access	EVO PC connected to the internet and ready for remote access	N/A

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.

Comment

Customer does not allow instrument PC to be connected to the Internet

**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

**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

**4.49. Tecan Maintenance Sticker**
**Tasks**

Fill in the due date for the next maintenance and place the sticker on the instrument

Further Description Please place the sticker preferably on the top left side of the front safety panel or top cover (the sticker must be visible)

Status 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 31.10.2022

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



Basic\_info.pdf



## QC Report

### Instrument Information

Information.dll Version: 1.25.1.0  
 Panel.dll Version: 1.27.1.0  
 Genesis.dll Version: 1.27.1.0  
 GUIExtensions.dll Version: 1.26.1.0  
 OSpp.dll Version: 1.25.1.0  
 Setup and Service Version: 8.0.1.0  
 Computer Name: NBSEST007991.tecan.net

Instrument Type: EVO  
 Instrument Serial Number: 1109006235  
 Tools [Type, SN]: None specified  
 Date: 31/Oct/2022 10:13:08

Operator: Date: Signature:

### Instrument Information

#### Instrument Properties

Type: freedom evo

Size: 200

Arm order

Arm	Addr	Movable Range [mm]	Deviation [mm]	Deviation Limit [mm]
1	LiHa C5	1601.9	-130.1	na

#### Diagnostics Data

Power Ups: 3102

On Time [h]: 15616.67

Downloads: 1

Page erases: 384

#### Device Information

Device	Firmware	Bootware	Serial Number
C6T00	DCSERVO2	V1.21-04/2007 V1.00-05/2003	-

Instrument Information Instrument Serial Number: 1109006235 Date: 31/Oct/2022 10:13:08 Page 1/6

	Device	Firmware	Bootware	Serial Number
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	-
P2T00	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
P2T02	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C6T20	XP2000	V1.10-03/2006	V1.02-04/2002	1109004117
C6T21	XP2000	V1.10-03/2006	V1.02-04/2002	1109004101
C6T22	XP2000	V1.10-03/2006	V1.02-04/2002	1109004112
C6T23	XP2000	V1.10-03/2006	V1.02-04/2002	1109004113
C6T24	XP2000	V1.10-03/2006	V1.02-04/2002	1109004114
C6T25	XP2000	V1.10-03/2006	V1.02-04/2002	1109004115
C6T26	XP2000	V1.10-03/2006	V1.02-04/2002	1109004116
C6T27	XP2000	V1.10-03/2006	V1.02-04/2002	810004205
P2T04	DS1100	V1.040	DS1100-Boot-V1.00-01/2005	-
C5	LIHACU	V1.72-07/2015	V1.10-04/2007	1109006236
C6T30	MPO	V3.20-04/2007	V1.00-08/2003	11240243
O7	ORBI	V1.10-07/2001	V1.20-09/99	10302
P1	POSID3	V1.21-08/2007	V1.10-04/2007	1109006238
O1	SAFY	V1.30-04/2008	V1.10-12/99	11330097
O5	SPE	V2.10-12/01	V1.00-11/99	7139
M1	TECU	V1.40-12/2007	V1.10-07/2005	1109006235

#### LiHa Arm

Address: C5  
Serial Number: 1109006236  
Firmware Version: V1.72-07/2015  
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	-16.9	1585.0	0.9999	160.0	1000.0	100.0
Y	1.0	-89.3	284.9	1.0007	240.0	350.0	35.0
Ys	1.0	9.0	38.0	1.0013	240.0	350.0	35.0
Z1	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z2	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z3	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z4	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z5	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0

Instrument Information Instrument Serial Number: 1109006235 Date: 31/Oct/2022 10:13:08 Page 2/6

	Offset	Displ	Range	Scale	Accel	Speed	Move Speed
Z6	7.4	-50.0	260.0	1.0000	200.0	400.0	40.0
Z7	7.4	-50.0	260.0	1.0000	200.0	400.0	40.0
Z8	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0

## Diagnostics Data

	Moves	Moves (cl)	Distance	No-Loads	Fetches DIT/s	Piercings	Status
X	1648404	1648404	488545	3	-	-	ready
Y	1605261	1605261	144055	13	-	-	ready
Ys	1606725	1606725	145274	6	-	-	ready
Z1	5490466	5490466	361129	69	188853	0	ready
Z2	4153401	4153401	302703	34	126848	0	ready
Z3	4095782	4095782	298746	39	121501	0	ready
Z4	4069098	4069098	296597	58	120512	0	ready
Z5	4035636	4035636	293939	52	117766	0	ready
Z6	4042536	4042536	294248	38	117808	0	ready
Z7	4015560	4015560	291763	34	112639	0	ready
Z8	3996201	3996201	290124	30	110161	0	ready

Te-Fill: NA

## PosID3

Address: P1  
Serial Number: 1109006238  
Firmware Version: V1.21-03/2007  
Bootware Version: V1.10-04/2007  
Scanner Serial Number: C12A01047  
Scanner Firmware Version: CAP000 rel. 1.04.0  
Scanner Bootware Version: DS1100-Boot-V1.00-01/2005

## Axes Parameters

	Offset	Displ	Range	Scale	Accel	Speed
X	1.0	-85.5	830.8	1.0006	90.0	500.0
Y	1.0	-318.5	5.1	1.0000	140.0	360.0
B	10.0	-93.1	104.8	1.0000	140.0	200.0

## Diagnostics Data

Power ups: 3074  
Minute meter: 917166  
FW downloads: 0  
FW page erased: 164

## Axes

	Moves	Moves (cl)	Distance	No-Loads	Status
X	183908	183908	14682	29	ready
Y	148413	148413	19265	8	ready

Instrument Information Instrument Serial Number: 1109006235 Date: 31/Oct/2022 10:13:08 Page 3/6

	Moves	Moves (cl)	Distance	No-Loads	Status
B	62748	62748	5742	7	ready

### Version Information

#### System Modules

	Version	Description	Copyright	Original Filename	Product Name
SnSFrame.exe	8.0.1.0	Instrument Setup and Service Application	Copyright © 2017 by Tecan Trading AG	SnSFrame.exe	Setup and Service
Genesis.dll	1.27.1.0	Device library for GENESIS Instruments	Copyright © 2017 by Tecan Trading AG	Genesis.dll	Setup and Service
Panel.dll	1.27.1.0	Base classes for concrete Panel Modules	Copyright © 2017 by Tecan Trading AG	Panel.DLL	Setup and Service
OSpp.dll	1.25.1.0	C++ wrapper for WinApp functions	Copyright © 2017 by Tecan Trading AG	OSpp.dll	Setup and Service
GUIExtensions.dll	1.26.1.0	GUI Extensions based on MFC controls. Used by Panel base classes and concrete panels	Copyright © 2017 by Tecan Trading AG	GUIExtensions.dll	Setup and Service
TCSDriver.dll	1.12.1.0	TCSDriver Tecan Communication Server	Copyright © 2017 by Tecan Trading AG	TCSDriver.dll	Setup and Service
TLSDriver.dll	1.15.1.0	TLSDriver - Tecan Login Server	Copyright © 2017 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	7.0.2.7779	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

	Version	Description	Copyright	Original Filename	Product Name	Product Version
AirLiHa.dll	1.8.1.0	Setup and QC Test module for AirLiHa	Copyright © 2017 by Tecan Trading AG	AirLiHa.dll	Setup and Service	8.0
Autoloader.dll	1.24.1.0	Setup and QC Test module for Autoloader	Copyright © 2017 by Tecan Trading AG	Autoloader.DLL	Setup and Service	8.0
BasicSetup.dll	1.27.1.0	Setup module for basic setups	Copyright © 2017 by Tecan Trading AG	BasicSetup.dll	Setup and Service	8.0
CGM.dll	1.12.1.0	Setup and QC Test module for CGM	Copyright © 2017 by Tecan Trading AG	CGM.DLL	Setup and Service	8.0
CheckCarrierPosition.dll	1.18.1.0	Tool to check carrier positions according to worktable DB	Copyright © 2017 by Tecan Trading AG	CheckCarrierPosition.DLL	Setup and Service	8.0
CommandTool.dll	1.25.1.0	Tool module for FW Commands	Copyright © 2017 by Tecan Trading AG	CommandTool.dll	Setup and Service	8.0

Instrument Information    Instrument Serial Number: 1109006235    Date: 31/Oct/2022 10:13:08    Page 4/6

	Version	Description	Copyright	Original Filename	Product Name	Product Version
DiTiTest.dll	1.20.1.0	Setup and QC Test module for DiTiTest	Copyright © 2017 by Tecan Trading AG	DiTiTest.DLL	Setup and Service	8.0
Incubator.dll	2.13.1.0	Setup and QC Test module for Incubator	Copyright © 2017 by Tecan Trading AG	Incubator.DLL	Setup and Service	8.0
Information.dll	1.25.1.0	Tool module for Information	Copyright © 2017 by Tecan Trading AG	Information.dll	Setup and Service	8.0
IOModule.dll	1.23.1.0	Setup and QC Test module for I/O-Option	Copyright © 2017 by Tecan Trading AG	iomodule.DLL	Setup and Service	8.0
LiHa.dll	1.27.1.0	Setup and QC Test module for LiHa	Copyright © 2017 by Tecan Trading AG	LiHa.dll	Setup and Service	8.0
LiquidSystem.dll	1.20.1.0	Setup and QC Test module for Liquid System	Copyright © 2017 by Tecan Trading AG	Liquid System.DLL	Setup and Service	8.0
LoadingInterface.dll	1.23.1.0	Setup and QC Test module for Loading Interface of EVO	Copyright © 2017 by Tecan Trading AG	LoadingInterface.DLL	Setup and Service	8.0
MCA.dll	1.18.1.0	Setup and QC Test module for MCA	Copyright © 2017 by Tecan Trading AG	MCA.DLL	Setup and Service	8.0
MCA384.dll	1.12.1.0	Setup and QC Test module for MCA384	Copyright © 2017 by Tecan Trading AG	MCA384.DLL	Setup and Service	8.0
MCAWash.dll	1.11.1.0	Setup and QC Test module for MCAWash	Copyright © 2017 by Tecan Trading AG	MCAWash.DLL	Setup and Service	8.0
MoveTest.dll	1.27.1.0	QC Test Module for RoMa, LiHa and PosID Move Tests	Copyright © 2017 by Tecan Trading AG	MoveTest.dll	Setup and Service	8.0
PMP.dll	1.20.1.0	Setup and QC Test module for PMP	Copyright © 2017 by Tecan Trading AG	PMP.DLL	Setup and Service	8.0
PnP.dll	1.27.1.0	Setup and QC Test module for PnP	Copyright © 2017 by Tecan Trading AG	PnPModule.DLL	Setup and Service	8.0
PosID2.dll	1.24.1.0	Setup and QC Test module for PosID2	Copyright © 2017 by Tecan Trading AG	PosID2.DLL	Setup and Service	8.0
PosID3.dll	1.20.1.0	Setup and QC Test module for PosID3	Copyright © 2017 by Tecan Trading AG	PosID3.DLL	Setup and Service	8.0
Repositioner.dll	1.24.1.0	Setup and QC Test module for Repositioner	Copyright © 2017 by Tecan Trading AG	Repositioner.DLL	Setup and Service	8.0
Results.dll	1.23.1.0	Setup and QC Test module for Results	Copyright © 2017 by Tecan Trading AG	Results.DLL	Setup and Service	8.0
RoboticDevices.dll	1.20.1.0	Tool module for robotic devices	Copyright © 2017 by Tecan Trading AG	RoboticDevices.DLL	Setup and Service	8.0
RoMa.dll	1.27.1.0	Setup and QC Test module for RoMa	Copyright © 2017 by Tecan Trading AG	RomaModule.DLL	Setup and Service	8.0
Safety.dll	1.23.1.0	Setup and QC Test module for Safety	Copyright © 2017 by Tecan Trading AG	Safety.DLL	Setup and Service	8.0
SlideInBCR.dll	1.7.1.0	Setup and QC Test module for Slide In Barcode Scanner	Copyright © 2017 by Tecan Trading AG	SlideInBCR.dll	Setup and Service	8.0

Instrument Information    Instrument Serial Number: 1109006235    Date: 31/Oct/2022 10:13:08    Page 5/6

	Version	Description	Copyright	Original Filename	Product Name	Product Version
SpoMpo.dll	1.23.1.0	Setup and QC Test module for SPO-MPO	Copyright © 2017 by Tecan Trading AG	SpoMpo.DLL	Setup and Service	8.0
Supervisor2.dll	1.23.1.0	Setup and QC Test module for Supervisor2	Copyright © 2017 by Tecan Trading AG	Supervisor2.DLL	Setup and Service	8.0
TeFill.dll	1.16.1.0	Setup and QC Test module for Te-Fill	Copyright © 2017 by Tecan Trading AG	TeFill.DLL	Setup and Service	8.0
TeLink.dll	1.24.1.0	Setup and QC Test module for Shuttle	Copyright © 2017 by Tecan Trading AG	Shuttle.DLL	Setup and Service	8.0
TeMags.dll	1.27.1.0	Setup and QC Test module for Te-MagS	Copyright © 2017 by Tecan Trading AG	TeMags.dll	Setup and Service	8.0
TeMO.dll	1.25.1.0	Setup and QC Test module for Te-MO Base	Copyright © 2017 by Tecan Trading AG	TeMO.DLL	Setup and Service	8.0
TeMOREfill.dll	1.25.1.0	Setup and QC Test module for Te-MO Refill	Copyright © 2017 by Tecan Trading AG	TeMOREfill.DLL	Setup and Service	8.0
TeMoWashUnit.dll	1.25.1.0	Setup and QC Test module for Te-MO Wash Unit	Copyright © 2017 by Tecan Trading AG	TeMoWashUnit.DLL	Setup and Service	8.0
TeShake.dll	1.27.1.0	Setup and QC Test module for Te-Shake	Copyright © 2017 by Tecan Trading AG	TeShake.DLL	Setup and Service	8.0
TeStack.dll	2.17.1.0	Setup and QC Test module for TeStack	Copyright © 2017 by Tecan Trading AG	TeStack.DLL	Setup and Service	8.0
TeVacs.dll	1.25.1.0	Setup and QC Test module for Te-VacS	Copyright © 2017 by Tecan Trading AG	TeVacs.dll	Setup and Service	8.0

Instrument Information    Instrument Serial Number: 1109006235    Date: 31/Oct/2022 10:13:08    Page 6/6



## QC Report

### LiHa Device Test

LiHa.dll Version: 1.27.1.0  
Panel.dll Version: 1.27.1.0  
Genesis.dll Version: 1.27.1.0  
GUIExtensions.dll Version: 1.26.1.0  
OSpp.dll Version: 1.25.1.0  
Setup and Service Version: 8.0.1.0  
Computer Name: NBSEST007991.tecan.net

LiHa Serial Number: 1109006236  
Instrument Type: EVO  
Instrument Serial Number: 1109006235  
Tools [Type, SN]: None specified  
Date: 31/Oct/2022 10:12:31

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

**Operator:** **Date:** **Signature:**

#### Device

##### Configuration

Address: C5  
Firmware Version: V1.72-07/2015  
Bootware Version: V1.10-04/2007  
Number of Tips: 8  
Spacing: 9.0 - 38.0 mm variable  
LLD Type: Standard ilid

##### Parameters

Axis	Offset	Displ	Range	Scale	Accel	Speed	Move Speed
X	1.0	-16.9	1585.0	0.9996	160.0	1000.0	100.0
Y	1.0	-88.3	284.9	1.0007	240.0	350.0	35.0
Ys	1.0	9.0	38.0	1.0013	240.0	350.0	35.0
Z1	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z2	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z3	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z4	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z5	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0
Z6	7.4	-50.0	260.0	1.0000	200.0	400.0	40.0
Z7	7.4	-50.0	260.0	1.0000	200.0	400.0	40.0
Z8	7.3	-50.0	260.0	1.0000	200.0	400.0	40.0

##### Diagnostics

Axis	Moves	Moves (cl)	Distance	No-Loads	Fetchd DiTi's	Piercings	Status
X	1648404	1648404	488545	3	-	-	ready
Y	1605261	1605261	144055	13	-	-	ready
Ys	1606725	1606725	145274	6	-	-	ready
Z1	5490466	5490466	361129	69	188853	0	ready
Z2	4153401	4153401	302703	34	126848	0	ready
Z3	4095782	4095782	298746	39	121501	0	ready
Z4	4069098	4069098	296597	58	120512	0	ready
Z5	4035636	4035636	293939	52	117766	0	ready

LiHa Device Test Device Serial Number: 1109006236 Date: 31/Oct/2022 10:12:31 Page 1/2

	Moves	Moves (cl)	Distance	No-Loads	Fetches DiT's	Piercings	Status
Z6	4042536	4042536	294248	38	117808	0	ready
Z7	4015560	4015560	291763	34	112639	0	ready
Z8	3996201	3996201	290124	30	110161	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

**Tip Verify: Not Applicable**

Test Configuration Details

Detailed Results

**Individual-Z Verify: Not Applicable**

Test Configuration Details

Detailed Results





## QC Report

### Liquid Handling System

LiquidSystem.dll Version: 1.20.1.0  
 Panel.dll Version: 1.27.1.0  
 Genesis.dll Version: 1.27.1.0  
 GUIExtensions.dll Version: 1.26.1.0  
 OSpp.dll Version: 1.25.1.0  
 Setup and Service Version: 8.0.1.0  
 Computer Name: NBSEST007991.tecan.net

Instrument Type: EVO  
 Instrument Serial Number: 1109006235  
 Tools [Type, SN]: None specified  
 Date: 31/Oct/2022 10:28:02

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

**Operator:** **Date:** **Signature:**

#### Devices

##### LiHa Arm

Serial Number: 1109006236  
 Address: C5  
 Firmware Version: V1.72-07/2015  
 Bootware Version: V1.10-04/2007

#### Liquid Channel Configuration

	Tip Type	Pipetting Tubing	Syringe Volume [ul]
Tip 1	Disposable Tip Adapter	Standard	1000
Tip 2	Disposable Tip Adapter	Standard	1000
Tip 3	Disposable Tip Adapter	Standard	1000
Tip 4	Disposable Tip Adapter	Standard	1000
Tip 5	Disposable Tip Adapter	Standard	1000
Tip 6	Disposable Tip Adapter	Standard	1000
Tip 7	Disposable Tip Adapter	Standard	1000
Tip 8	Disposable Tip Adapter	Standard	1000

#### Aspiration Tubing Configuration

Tubing type: Standard

##### FaWa

Serial Number: 11240243  
 Address: C6T30  
 Firmware Version: V3.20-04/2007  
 Bootware Version: V1.00-08/2003

**Worktable:** worktable template EVO

#### FaWa Test: Passed

##### Test Configuration Details

Pump duration before opening the valves[ms]: 1000  
 Duration with open valves[ms]: 3000  
 Pump duration after closing the valves[ms]: 200  
 Tube inner diameter [mm]: 13.0

Liquid Handling System Instrument Serial Number: 1109006235 Date: 31/Oct/2022 10:28:02 Page 1/3

# Pass / Fail Criteria

Minimum expected throughput: see detailed results

## Detailed Results

Tips	Throughput	Min throughput	Within limit
Tip 1, 200 EDiti	2322 ul/s	1600 ul/s	Yes
Tip 2, 200 EDiti	2305 ul/s	1600 ul/s	Yes
Tip 3, 200 EDiti	2340 ul/s	1600 ul/s	Yes
Tip 4, 200 EDiti	2331 ul/s	1600 ul/s	Yes
Tip 5, 200 EDiti	2327 ul/s	1600 ul/s	Yes
Tip 6, 200 EDiti	2366 ul/s	1600 ul/s	Yes
Tip 7, 200 EDiti	2366 ul/s	1600 ul/s	Yes
Tip 8, 200 EDiti	2282 ul/s	1600 ul/s	Yes

## 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)	QCTROUGH.RF	1	1
Strip Rack	QCTROUGH.RF	1	1

### LLD Dest Racks

	Name	FirstWell	WellCount	Interleaved Wells
Trough (Prefill > 5ml)	QCTROUGH.RM	1	1	0
Strip Rack	QCTUBE1.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

'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'.

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	0.2	0.2	0.5	0.3	0.3	0.4	0.2	0.2
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

##### Trough (Prefill > 5ml)

	Tip 1	Tip 2	Tip 3	Tip 4	Tip 5	Tip 6	Tip 7	Tip 8
z-in-min	80.3	80.1	80.2	80.3	80.3	80.3	80.3	80.4
z-in-max	80.5	80.2	80.7	80.5	80.6	80.7	80.5	80.6
z-in-dev	0.2	0.1	0.5	0.2	0.3	0.4	0.2	0.2
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

##### Strip Rack

	Tip 1	Tip 2	Tip 3	Tip 4	Tip 5	Tip 6	Tip 7	Tip 8
z-in-min	67.7	67.1	68.1	68.1	67.5	68.9	68.5	67.2
z-in-max	67.7	67.3	68.6	68.4	67.8	69.1	68.7	67.3
z-in-dev	0.0	0.2	0.5	0.3	0.3	0.2	0.2	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

### DiTi Test Device Test

DiTiTest.dll Version: 1.20.1.0  
 Panel.dll Version: 1.27.1.0  
 Genesis.dll Version: 1.27.1.0  
 GUIExtensions.dll Version: 1.26.1.0  
 OSpp.dll Version: 1.25.1.0  
 Setup and Service Version: 8.0.1.0  
 Computer Name: NBSEST007991.tecan.net

DiTi Test Serial Number: 1109006236  
 Instrument Type: EVO  
 Instrument Serial Number: 1109006235  
 Tools [Type, SN]: None specified  
 Date: 31/Oct/2022 10:20:52

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

**Operator:** **Date:** **Signature:**

#### Device

##### Configuration

Firmware Version: V1.72-07/2015  
 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: 1109006236 Date: 31/Oct/2022 10:20:52 Page 1/1



## QC Report

### PosID-3 Device Test

PosID3.dll Version: 1.20.1.0  
 Panel.dll Version: 1.27.1.0  
 Genesis.dll Version: 1.27.1.0  
 GUIExtensions.dll Version: 1.26.1.0  
 OSpp.dll Version: 1.25.1.0  
 Setup and Service Version: 8.0.1.0  
 Computer Name: NBSEST007991.tecan.net

PosID-3 Serial Number: 1109006238  
 Instrument Type: EVO  
 Instrument Serial Number: 1109006235  
 Tools [Type, SN]: None specified  
 Date: 31/Oct/2022 10:33:24

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

**Operator:** **Date:** **Signature:**

#### Device

##### Parameters

	Offset	Displ	Range	Scale	Accel	Speed
X	1.0	-85.5	830.8	1.0006	90.0	500.0
Y	1.0	-318.5	5.1	1.0000	140.0	360.0
B	10.0	-93.1	104.8	1.0000	140.0	200.0

##### Diagnostics

Power ups: 3073  
 Minute meter: 917158  
 FW downloads: 0  
 FW page erased: 164

##### Axes

	Moves	Moves (cl)	Distance	No-Loads	Status
X	183917	183917	14682	29	ready
Y	148428	148428	19266	8	ready
B	62757	62757	5742	7	ready

##### Configuration

Firmware Version: V1.21-08/2007  
 Bootware Version: V1.10-04/2007  
 Scanner Serial Number: C12A01047  
 Scanner Firmware Version: CAP000 rel. 1.04.0  
 Scanner Bootware Version: DS1100-Boot-V1.00-01/2005

### Reading Positions Test: Passed

#### Test Configuration Details

Cycles: Read all barcodes on gripper and service rack one time

#### Pass / Fail Criteria

Criteria: All barcodes must be read as expected

#### Detailed Results

Reference Barcode

PosID-3 Device Test Device Serial Number: 1109006238 Date: 31/Oct/2022 10:33:24 Page 1/3

	expected	read	results
Gripper, vertical barcode	V	V	passed
Gripper, horizontal barcode	H	H	passed
Service Rack, CarrierID1	999/000000	999/000000	passed
Service Rack, CarrierID2	999/000000	999/000000	passed
Connect carrier with y/b alignment vertical	no error	-	passed
Service Rack, vertical barcode	1111111111111119	1111111111111119	passed
Service Rack, horizontal barcode, rear position	55	55	passed
Service Rack, horizontal barcode, front position	55	55	passed
Disconnect carrier with y/b alignment horizontal	no error	-	passed

### No Tube Sensor Test: Passed

#### Test Configuration Details

Grid position: 29  
Cycles: Detects each of the three opening of the service rack one time

#### Pass / Fail Criteria

Lower opening: 'Tube' expected.  
Upper opening: 'Tube' expected.  
Heigh opening: no 'Tube' expected.

#### Detailed Results

Lower opening: passed  
Upper opening: passed  
Heigh opening: passed

Test Configuration: Default

### Barcode Reading Test: Passed

#### Test Configuration Details

Cycles: 5  
Number of carriers: 2  
From grid: 26  
To grid: 30  
Do reference read: yes  
Barcode settings: Default

#### Pass / Fail Criteria

Maximum number of barcode mismatch on carrier flag: 0, test will be aborted  
Maximum number of carrier flags not read(0.10%): 0  
Maximum number of barcodes read wrong: 0  
Maximum number of barcodes on racks not read(0.20%): 1  
Maximum number of No Tube sensor errors(0.02%): 0  
Maximum number of y/b alignment failed: 0, cycle will be aborted

#### Detailed Results

Cycles done: 5  
Number of carrier flags read in first cycle: 2  
Number of carrier flags not read: 0  
Number of barcodes read wrong: 0  
Number of barcodes not read: 0  
Number of No Tube sensor errors: 0  
Number of y/b alignment failed: 0  
Total number of errors: 0  
ErrorList

#### ReferenceRead

##### Carrier1

Grid: 27	
Barcodes	
	Barcode
Carrier flag	033/033532
Rack1	***
Rack2	***
Rack3	5-019

PosID-3 Device Test Device Serial Number: 1109006238 Date: 31/Oct/2022 10:33:24 Page 2/3

Carrier2

Grid: 29

Barcodes

	Barcode
Carrier flag	999/000000

Test Configuration: User Defined



## QC Report

### Safety Device Test

Safety.dll Version: 1.23.1.0  
 Panel.dll Version: 1.27.1.0  
 Genesis.dll Version: 1.27.1.0  
 GUIExtensions.dll Version: 1.26.1.0  
 OSpp.dll Version: 1.25.1.0  
 Setup and Service Version: 8.0.1.0  
 Computer Name: NBSEST007991.tecan.net

Safety Serial Number: 11330097  
 Instrument Type: EVO  
 Instrument Serial Number: 1109006235  
 Tools [Type, SN]: None specified  
 Date: 31/Oct/2022 12:42:46

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

**Operator:** **Date:** **Signature:**

#### 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: 11330097 Date: 31/Oct/2022 12:42:46 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

### Te-VacS Device Test

TeVacS.dll Version: 1.25.1.0  
 Panel.dll Version: 1.27.1.0  
 Genesis.dll Version: 1.27.1.0  
 GUIExtensions.dll Version: 1.26.1.0  
 OSpp.dll Version: 1.25.1.0  
 Setup and Service Version: 8.0.1.0  
 Computer Name: NBSEST007991.tecan.net

Te-VacS Serial Number: 7139  
 Instrument Type: EVO  
 Instrument Serial Number: 1109006235  
 Tools [Type, SN]: None specified  
 Date: 31/Oct/2022 12:47:50

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

Operator: Date: Signature:

**Liquid Level Sensor Test:** Passed  
**Pressure Sensor Calibration Test:** Passed  
**Extraction Valve Function Test:** Passed  
**Pump Performance Test:** Passed  
**Ventilation Valve Function Test:** Passed  
**Leakage Test:** Passed

#### Device Settings

Type: Chemical resistant

#### Duty Cycle timing

On Time [ms]: 6  
 Off Time [ms]: 16

#### Duty Cycle usage

Control Valve: off  
 Extraction Valve 1: off  
 Ventilation Valve 1: off  
 Extraction Valve 2: off  
 Ventilation Valve 2: off

#### Test Configuration

**External gauge used:** no  
**Vacuum blocks used:** 1  
**Ambient pressure equalisation timeout [s]:** 15  
**Pressure and Timeout**

	Pressure [kPa]	Timeout [s]
Maximum pump performance	70	50
Extraction valve	45	3
Leakage test initial	60	40
Maximum leakage	3	60
Ventilation valve	12	3

#### Detailed Results

Te-VacS Device Test Device Serial Number: 7139 Date: 31/Oct/2022 12:47:50 Page 1/2

Ambient Pressure Equalisation Time [s]: 4.312

**Extraction Valve**

	Maximum Pump Performance Time [s]	Flowrate Pressure [kPa]
Valve 1	7.547	70
Valve 2	7.375	70

**Ventilation Valve**

	Leakage Test Initial Time [s]	Leakage Pressure [kPa]	Flowrate Pressure [kPa]
Valve 1	7.781	4	42
Valve 2	7.609	3	43



## QC Report

### Te-Shake Device Test

TeShake.dll Version: 1.27.1.0  
 Panel.dll Version: 1.27.1.0  
 Genesis.dll Version: 1.27.1.0  
 GUIExtensions.dll Version: 1.26.1.0  
 OSpp.dll Version: 1.25.1.0  
 Setup and Service Version: 8.0.1.0  
 Computer Name: NBSEST007991.tecan.net

Te-Shake Serial Number: 10302  
 Instrument Type: EVO  
 Instrument Serial Number: 1109006235  
 Tools [Type, SN]: None specified  
 Date: 31/Oct/2022 10:17:01

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

Operator: \_\_\_\_\_ Date: \_\_\_\_\_ Signature: \_\_\_\_\_

#### Device

##### Configuration

Shaker Type: 1 Microplate  
 Firmware Version: V1.10-07/2001  
 Bootware Version: V1.20-09/99

##### Diagnostics

Power up Counter: 72  
 Operating Time [minutes]: 19327  
 Initialization Counter: 245  
 Movement Counter: 1718  
 Overload Counter: 0

#### Mechanical Burn-In / Validation: Passed

##### Test Configuration Details

Shake Time [sec]: 60  
 Minimum Speed [rpm]: 1200  
 Maximum Speed [rpm]: 1200  
 Interval Time [sec]: 30  
 Interval Step [rpm]: 100

##### Pass / Fail Criteria

Maximum Number of Initialization Errors: 0  
 Maximum Move errors: 0

##### Detailed Results

Move Errors: 0  
 Initialization Errors: 0

Test Configuration: Default

#### Heating Burn-In: Not Done

##### Test Configuration Details

##### Pass / Fail Criteria

Te-Shake Device Test Device Serial Number: 10302 Date: 31/Oct/2022 10:17:01 Page 1/2

## Detailed Results

**Heating Validation with TEMPO110: Not Done**

Optional test to validate the heating plate surface temperature on request of customer (on site)

Test Configuration Details

Pass / Fail Criteria

Detailed Results



## QC Report

### Liquid Handling System

LiquidSystem.dll Version: 1.20.1.0  
 Panel.dll Version: 1.27.1.0  
 Genesis.dll Version: 1.27.1.0  
 GUIExtensions.dll Version: 1.26.1.0  
 OSpp.dll Version: 1.25.1.0  
 Setup and Service Version: 8.0.1.0  
 Computer Name: NBSEST007991.tecan.net

Instrument Type: EVO  
 Instrument Serial Number: 1109006235  
 Tools [Type, SN]: None specified  
 Date: 31/Oct/2022 12:36:39

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

**Operator:** **Date:** **Signature:**

#### Devices

##### LiHa Arm

Serial Number: 1109006236  
 Address: C5  
 Firmware Version: V1.72-07/2015  
 Bootware Version: V1.10-04/2007

#### Liquid Channel Configuration

	Tip Type	Pipetting Tubing	Syringe Volume [ul]
Tip 1	Disposable Tip Adapter	Standard	1000
Tip 2	Disposable Tip Adapter	Standard	1000
Tip 3	Disposable Tip Adapter	Standard	1000
Tip 4	Disposable Tip Adapter	Standard	1000
Tip 5	Disposable Tip Adapter	Standard	1000
Tip 6	Disposable Tip Adapter	Standard	1000
Tip 7	Disposable Tip Adapter	Standard	1000
Tip 8	Disposable Tip Adapter	Standard	1000

#### Aspiration Tubing Configuration

Tubing type: Standard

##### FaWa

Serial Number: 11240243  
 Address: C6T30  
 Firmware Version: V3.20-04/2007  
 Bootware Version: V1.00-08/2003

#### Worktable: worktable template EVO

##### Balance

Balance type: WXSS205DU  
 Serial number: C035930358  
 Calibration date: 2021-11-30  
 Samples [count]: 5  
 Tolerance [mg]: 0.10  
 Weigh Delay [sec]: 0.5

Liquid Handling System Instrument Serial Number: 1109006235 Date: 31/Oct/2022 12:36:39 Page 1/4

### FaWa Test: Not Done

Test Configuration Details

Pass / Fail Criteria

Detailed Results

### Liquid Level Detection Test: Not Done

Test Configuration Details

Pass / Fail Criteria

Detailed Results

### Gravimetric Pipetting Precision Test: Passed

Test Configuration Details

Common

DiTi Type:	200 EDiti
Use next tip for each dispense:	enabled
Liquid type:	Tap water
Density [mg/ul]:	1.000
Liquid Conductivity:	Bad
LLD Mode:	Trough mode

Disposable Tip

200 EDiti

10 ul

Test

Cycles:	12
Max CV [%]:	3.500

Aspiration

Aliquotes:	1
Aspiration Delay [msec]:	200
Aspiration Retract Speed [mm/sec]:	20.0
Aspiration Speed [ul/sec]:	30
Aspiration Submerge [mm]:	1.0
Aspiration Volume [ul]:	10.000
Calibration Volume [ul]:	1.000
Detect Speed [mm/sec]:	60
Low-Volume by Aspiration:	disabled

Dispense

Break Off Speed [ul/sec]:	400
Delay Before Pinch [msec]:	500
Dispense Delay [sec]:	0.0
Dispense Speed [ul/sec]:	600
Dispense Volume [ul]:	10.000
Dispense by Dilutor:	enabled
Dispense on LL:	disabled
Dispense on LL Offset [mm]:	0.0
Low-Volume Active:	disabled

Liquid Structure

Air Gap Aspiration Speed [ul/sec]:	70
Conditioning Volume [ul]:	0.000
Conditioning Volumes count:	0
Delay After Conditioning [msec]:	0
Excess Volume [ul]:	0.000
Leading Air Gap [ul]:	10.000
Partition Leading Air Gap [ul]:	0.000
Partition Trailing Air Gap [ul]:	0.000
Partition Volume [ul]:	0.000
System Trailing Air Gap [ul]:	20.000
Trailing Air Gap [ul]:	5.000

Wash

Low-Volume by Wash:	disabled
Wash Speed [ul/sec]:	1000

Liquid Handling System Instrument Serial Number: 1109006235 Date: 31/Oct/2022 12:36:39 Page 2/4

Wash Volume [ul]: 1000

100 ul

Test

Cycles: 12

Max CV [%]: 0.750

Aspiration

Aliquots: 1

Aspiration Delay [msec]: 200

Aspiration Retract Speed [mm/sec]: 20.0

Aspiration Speed [ul/sec]: 150

Aspiration Submerge [mm]: 2.0

Aspiration Volume [ul]: 100.000

Calibration Volume [ul]: 4.000

Detect Speed [mm/sec]: 60

Low-Volume by Aspiration: disabled

Dispense

Break Off Speed [ul/sec]: 400

Delay Before Pinch [msec]: 500

Dispense Delay [sec]: 0.0

Dispense Speed [ul/sec]: 600

Dispense Volume [ul]: 100.000

Dispense by Dilutor: enabled

Dispense on LL: disabled

Dispense on LL Offset [mm]: 0.0

Low-Volume Active: disabled

Liquid Structure

Air Gap Aspiration Speed [ul/sec]: 70

Conditioning Volume [ul]: 0.000

Conditioning Volumes count: 0

Delay After Conditioning [msec]: 0

Excess Volume [ul]: 0.000

Leading Air Gap [ul]: 5.000

Partition Leading Air Gap [ul]: 0.000

Partition Trailing Air Gap [ul]: 0.000

Partition Volume [ul]: 0.000

System Trailing Air Gap [ul]: 20.000

Trailing Air Gap [ul]: 10.000

Wash

Low-Volume by Wash: disabled

Wash Speed [ul/sec]: 1000

Wash Volume [ul]: 1000

#### Pass / Fail Criteria

CV of each channel and over all CV: less or equal 'Max CV [%]'.  
No '0' dispenses are allowed. Limit for '0' dispenses: 10% of nominal volume.

#### History

	Channels	Start time	Operator comment
1. Validation	1, 2, 3, 4, 5, 6, 7, 8	31/Oct/2022 10:37:35	First run

#### Detailed Results

Disposable Tip / 200 EDiti / 10 ul

	Tip 1	Tip 2	Tip 3	Tip 4	Tip 5	Tip 6	Tip 7	Tip 8	All
Meas 1	9.530	9.384	9.620	10.006	10.076	10.070	9.630	9.400	-
Meas 2	9.640	9.324	9.504	9.924	10.126	10.074	9.628	9.400	-
Meas 3	9.600	9.416	9.552	9.902	9.968	9.982	9.538	9.408	-
Meas 4	9.600	9.354	9.560	9.910	10.100	10.010	9.634	9.452	-
Meas 5	9.600	9.300	9.540	9.732	9.926	10.034	9.536	9.550	-
Meas 6	9.568	9.356	9.402	9.756	10.046	10.124	9.494	9.368	-
Meas 7	9.570	9.388	9.410	9.740	9.962	9.970	9.470	9.462	-
Meas 8	9.554	9.412	9.392	9.722	9.910	9.920	9.588	9.388	-

Liquid Handling System Instrument Serial Number: 1109006235 Date: 31/Oct/2022 12:36:39 Page 3/4



	Tip 1	Tip 2	Tip 3	Tip 4	Tip 5	Tip 6	Tip 7	Tip 8	All
Meas 9	9.524	9.524	9.392	9.698	10.014	9.806	9.432	9.400	-
Meas 10	9.486	9.498	9.334	9.634	9.954	9.824	9.382	9.544	-
Meas 11	9.536	9.600	9.398	9.712	10.004	9.680	9.326	9.472	-
Meas 12	9.522	9.502	9.426	9.572	9.824	9.922	9.480	9.370	-
Mean [mg]	9.561	9.422	9.461	9.776	9.993	9.951	9.512	9.435	9.639
Mean [ul]	9.561	9.422	9.461	9.776	9.993	9.951	9.512	9.435	9.639
Acc [%]	-4.392	-5.785	-5.392	-2.243	-0.075	-0.487	-4.885	-5.655	-3.614
CV [%]	0.458	0.963	0.947	1.334	0.866	1.297	1.053	0.661	2.478
Max CV [%]	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500	3.500
Status	passed	passed	passed	passed	passed	passed	passed	passed	passed

Disposable Tip / 200 EDiti / 100 ul

	Tip 1	Tip 2	Tip 3	Tip 4	Tip 5	Tip 6	Tip 7	Tip 8	All
Meas 1	98.052	97.366	98.040	98.660	97.718	97.836	98.410	97.612	-
Meas 2	97.720	97.244	98.076	98.358	97.718	97.932	98.194	97.544	-
Meas 3	97.686	97.294	97.918	98.748	97.588	97.830	98.164	97.502	-
Meas 4	97.768	97.434	98.010	98.604	97.622	97.826	98.308	97.552	-
Meas 5	97.824	97.138	98.102	98.694	97.566	97.902	98.254	97.652	-
Meas 6	97.780	97.260	98.028	98.840	97.670	97.670	98.104	97.534	-
Meas 7	97.762	97.580	98.164	98.592	97.640	97.896	98.168	97.612	-
Meas 8	97.598	97.456	98.044	98.420	97.638	97.594	98.424	97.686	-
Meas 9	97.858	97.698	98.146	98.384	97.596	97.934	98.194	97.580	-
Meas 10	97.936	97.436	97.922	98.346	97.624	98.026	98.440	97.538	-
Meas 11	97.510	97.538	97.904	98.716	97.676	97.896	98.214	97.558	-
Meas 12	97.678	97.398	97.876	98.662	97.892	97.996	98.188	97.706	-
Mean [mg]	97.764	97.404	98.019	98.585	97.662	97.862	98.255	97.590	97.893
Mean [ul]	97.764	97.404	98.019	98.585	97.662	97.862	98.255	97.590	97.893
Acc [%]	-2.236	-2.596	-1.981	-1.415	-2.338	-2.138	-1.745	-2.410	-2.107
CV [%]	0.149	0.161	0.098	0.170	0.089	0.127	0.116	0.066	0.388
Max CV [%]	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750
Status	passed	passed	passed	passed	passed	passed	passed	passed	passed

### Colorimetric Pipetting Precision Test: Not Applicable

Test Configuration Details

Pass / Fail Criteria

Detailed Results

Kalibreringscertifikat ID  
dk0032-060-113021-ACC

**METTLER TOLEDO**

Mettler Toledo A/S

Mettler-Toledo A/S

Naverland 8

DK-2600 Glostrup

Service.dk@mt.com

## ACC Kalibreringscertifikat

Accuracy Calibration Certificate

### Kunde

Firma: Tecan Nordic AB  
Adresse: Himmelevvej 29  
By: Roskilde Kontaktperson: Casper Olsen  
Postnummer: 4000 Ordrenummer: N/A

### Vejeudstyr

Fabrikat: Mettler Toledo Udstyrstype: Vægt  
Model: WXS205SDU ID nummer: N/A  
Serienummer: C146996518 Terminal model: SWT  
Bygning: N/A Terminal serienummer: C035930358  
Etag: N/A Terminal TAG No.: N/A  
Rum: N/A Aftale nr.: 81720

Område	Max. kapacitet	Deling (d)
1	111 g	0,00001 g
2	220 g	0,0001 g

### Procedure

Retningslinier for kalibrering: EURAMET cg-18 v. 4.0 (11/2015)  
METTLER TOLEDO arbejdsinstruktion: 30260953

Dette kalibreringscertifikat indeholder målinger fra kalibrering efter service.

Vægtens følsomhed blev justeret for kalibreringen med et eksternt lod. As Left 21315

I overensstemmelse med EURAMET cg-18 (11/2015) blev målepunkterne udvalgt for at afspejle den specifikke brug af vægten eller for at imødekomme specifikke kalibreringsbetingelser.

Dato for kalibrering før service: N/A  
Dato for kalibrering efter service: 30-11-2021  
Udstedelsesdato: 30-11-2021  
Næste kalibreringsdato: N/A

Servicetekniker:

  
Casper Hansen

Kalibreringscertifikat ID  
dk0032-060-113021-ACC

**METTLER TOLEDO** Service

## Måleresultater

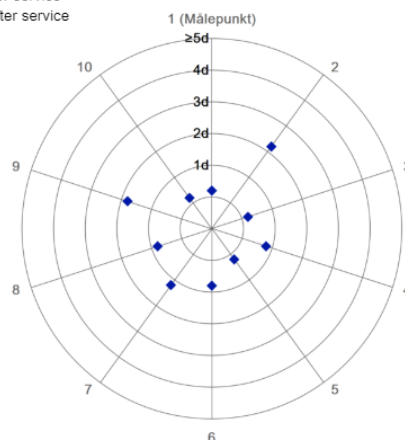
### Repeterbarhed

Anvendt lod: 10 g

	Før service	Efter service
1	N/A	9,99993 g
2	N/A	9,99991 g
3	N/A	9,99993 g
4	N/A	9,99994 g
5	N/A	9,99993 g
6	N/A	9,99994 g
7	N/A	9,99992 g
8	N/A	9,99994 g
9	N/A	9,99995 g
10	N/A	9,99993 g

Standardafvigelse	N/A	0,000011 g
-------------------	-----	------------

○ Før service  
◆ Efter service



"d" i grafen repræsenterer læsbarheden af det område/interval, hvor testen blev udført.

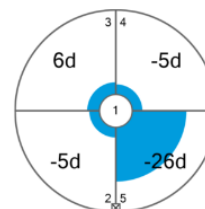
Resultaterne af denne graf er baseret på de absolutte værdier af forskellene fra middelværdien.

### Excentricitet

Anvendt lod: 100 g

Position	Før service	Efter service
1	N/A	100,00009 g
2	N/A	100,00004 g
3	N/A	100,00015 g
4	N/A	100,00004 g
5	N/A	99,99983 g

Max. Afvigelse	N/A	0,00026 g
----------------	-----	-----------



Efter service

"d" i grafen repræsenterer læsbarheden af det område/interval, hvor testen blev udført.

### Fejlvisning

Softwareversion: 1.23.0.229  
Rapportversion: 2.16.5  
Formular nummer: ACC

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Dokumentet blev leveret elektronisk.

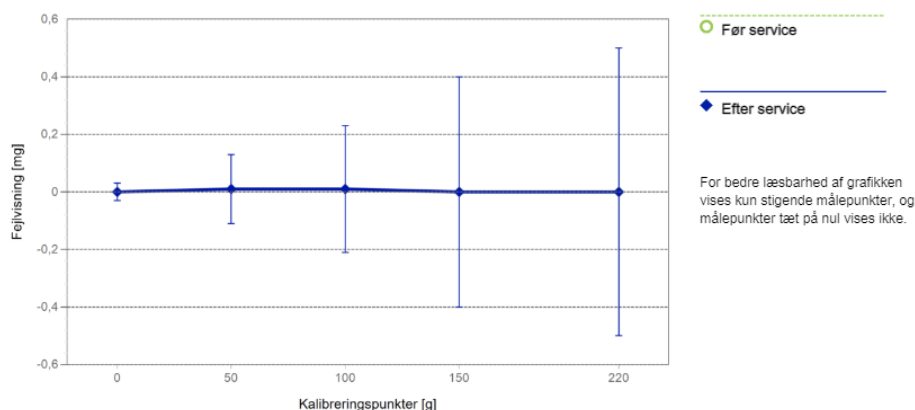
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Kalibreringscertifikat ID  
dk0032-060-113021-ACC

## METTLER TOLEDO Service

Efter service

	Referenceværdi	Visning	Fejlvinsning	Expanderet usikkerhed	k
1	0,00000 g	0,00000 g	0,00000 g	0,03 mg	2
2	0,01000 g	0,00999 g	-0,00001 g	0,03 mg	2
3	0,10001 g	0,10000 g	-0,00001 g	0,03 mg	2
4	1,00000 g	1,00000 g	0,00000 g	0,04 mg	2
5	9,99997 g	9,99996 g	-0,00002 g	0,07 mg	2
6	50,00000 g	50,00001 g	0,00001 g	0,12 mg	2
7	99,99999 g	100,00000 g	0,00001 g	0,22 mg	2
8	150,0000 g	150,0000 g	0,0000 g	0,4 mg	2
9	220,0001 g	220,0001 g	0,0000 g	0,5 mg	2



Usikkerheden er angivet som den expanderede usikkerhed ved kalibrering og fremkommer ved at multiplicere den kombinerede standardusikkerhed med dækningsfaktoren  $k$  - som kan være større end 2 ifølge EURAMET og -18. Værdien af det målte ligger indenfor det tildelte område af værdier med en sandsynlighed på 95%. Brugeren er ansvarlig for at opretholde miljøforholdene og indstillingerne for vejinstrumentet som da det blev kalibreret.

### Vægtens måleusikkerhed i brug

Angives den expanderede usikkerhed med  $k = 2$  i brug. Formlen skal bruges til estimering af usikkerheder under hensyntagen til fejlvinsningen. Værdien  $R$  repræsenterer nettobelastningen i den af udstyret anvendte måleenhed.

Den anvendte temperaturkoefficient i forbindelse med udregning af måleusikkerheden:  $1,5 \cdot 10^{-6} / K$

Det anvendte temperaturområde i forbindelse med udregning af måleusikkerheden:  $4 K$

#### Linearisering af usikkerhedsberegningen

	Område		Før service	Efter service
	d	Max		
1	0,00001 g	111 g	N/A	$U_1 = 0,024 \text{ mg} + 0,00568 \text{ mg/g} \cdot R$
2	0,0001 g	220 g	N/A	$U_2 = 0,06 \text{ mg} + 0,00562 \text{ mg/g} \cdot R$

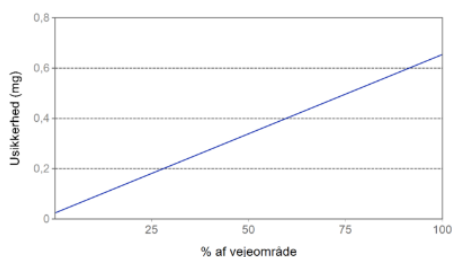
For at optimere stabiliteten af lineariseringen tages der foruden beregningen af den lineære ligning ud over nulbelastningen kun stigende målepunkter med en testbelastning på 5% af måleområdet eller større.

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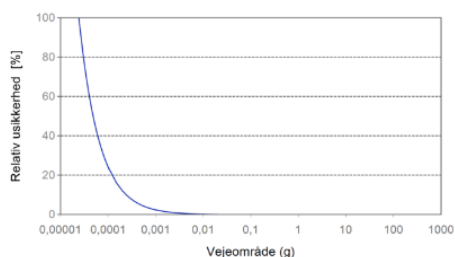
**METTLER TOLEDO** Service

Absolut og relativ måling Usikkerhed ved brug for forskellige netindikationer (Eksempler)

Nettovisning	Før service		Efter service	
0,00220 g	N/A	N/A	0,024 mg	1,1%
0,02200 g	N/A	N/A	0,024 mg	0,11%
0,22000 g	N/A	N/A	0,025 mg	0,011%
2,20000 g	N/A	N/A	0,036 mg	0,0017%
220,0000 g	N/A	N/A	1,3 mg	0,00059%



Før service



Efter service

Vejeområdet som er udtrykt i måleusikkerhedsgrafen refererer til det første interval/område på vægten.

## Testudstyr

Lodder anvendt til metrologiske test er sporbare til nationale og internationale standarder. Lodderne er kalibrerede af et akkrediteret laboratorium.

Lodsæt 1: OIML E2

Lodsæt nummer: 21315 Udstedelsesdato: 02-06-2021  
Certifikatnummer: 173225 Kalibrerings forfaldsdato: 02-06-2022

## Bemærkninger

Dette er en indkalibrering fordi vejeenheden er skiftet.

Kalibreringen er udført med vejehus på vejesten.

Dette dokument er udstedt med henblik på at registrere færdiggørelsen af det arbejde, som METTLER TOLEDO har udført på den aktuelle enhed i overensstemmelse med aftalte standarder. Det garanterer ikke den pågældende enheds fortsatte ydeevne. Alle registrerede målinger er baseret på den pågældende enheds ydeevne på et givent tidspunkt som konstateret af METTLER TOLEDO ved test af enheden, og med mindre andet udtrykkeligt er angivet, er målingerne ikke udtryk for en vurdering af egnetheden af eventuelle procedurer udviklet af kunden til afprøvning af enheden. Dette dokument er ikke udtryk for en garanti, hverken underforstået eller udtrykkelig. METTLER TOLEDO fraskriver sig udtrykkeligt ethvert ansvar som følge af brugen af oplysningerne i dette dokument til noget andet formål end som angivet heri.

Tillæg til kalibreringscertifikat:  
dk0032-060-113021-ACC  
GWP® Certifikat

**METTLER TOLEDO** Service

# GWP® Certifikat



Før service

N/A

Efter service



Vægten overholder procestolerancerne.

Test udført: ☐ Før service ☒ Efter service

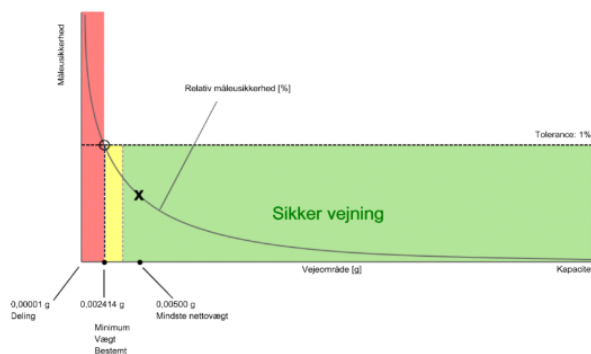
## Proceskrav

Tolerance: 1 %

Mindste nettovægt: 0,00500 g

Sikkerhedsfaktor: 2

Det sikre vejnområde



Eftersom værdierne i grafen repræsenterer de aktuelle kalibreringsresultater, er målesikkerhedskurverne blot en visuel præsentation. Denne graf viser test efter service med mindre der kun blev udført test før service.

Softwareversion: 1.23.0.229  
Rapportversion: 2.16.5  
Formular nummer: ACC

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Dokumentet blev leveret elektronisk.

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dk0032-060-113021-ACC  
GWP® Certifikat

**METTLER TOLEDO** Service


## Minimumsvægt

Efter service/As Left minimumsvægtstabel

Område 1

Minimumsvægt for forskellige vejtolerancer og sikkerhedsfaktorer					
Tolerance	Sikkerhedsfaktor				
	1	2	3	5	10
0,1%	0,024267 g	0,048813 g	0,073642 g	0,124172 g	0,255821 g
0,2%	0,012099 g	0,024267 g	0,036505 g	0,061192 g	0,124172 g
0,5%	0,004831 g	0,009674 g	0,014527 g	0,024267 g	0,048813 g
1%	0,002414 g	0,004831 g	0,007251 g	0,012099 g	0,024267 g
2%	0,001207 g	0,002414 g	0,003622 g	0,006041 g	0,012099 g
5%	0,000483 g	0,000965 g	0,001448 g	0,002414 g	0,004831 g

Tabellen over minimumsvægt gælder det lave område på vægten.

 OK: Den fundne minimumsvægt opfylder kravene til mindste nettovægt.

På disse netto minimumsvægtværdier er usikkerheden på målingen lig med eller mindre end 1/1 (ingen sikkerhedsfaktor), 1/2, 1/3, 1/5 eller 1/10 af den krævede tolerance. Værdierne er beregnet med  $k = 2$  og er baseret på den lineære formel for usikkerheden på målingen af vægten i brug.

Sikkerhedsfaktoren for As Found er altid 1. Dette indebærer ingen sikkerhedsfaktor. Som Fundet test ser man instrumentets opførsel fra fortiden, indtil testen opstod. For fortiden er det nødvendigt at vide, at tolerancen var opfyldt, men ikke sikkerhedsfaktoren. Sikkerhedsfaktoren er et proaktivt mål at anvende til fremtidige målinger.

Noter om mindste vægtværdier i ovenstående tabel:

1. Hvis "N/A" vises ovenfor, kan ingen passende værdi beregnes.
2. METTLER TOLEDO er ikke ansvarlig for definitionen af proceskravene.

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**METTLER TOLEDO** Service

## Måleresultater

### Opsummering af resultat

	Repeterbarhed	Excentricitet	Fejlvisning
Efter service	✓	✓	✓

✓ = OK

✗ = Ikke ok

⚠ = Sikkerhedsfaktor ikke opfyldt

### Repeterbarhed

Anvendt lod: 10 g

Tolerance	Kontrolgrænse	Før service		Efter service	
		Std.afvigelse	Resultat	Std.afvigelse	Resultat
0,1%	N/A	N/A	N/A	0,00011 g*	N/A
0,2%	0,000005 g		N/A		✗
0,5%	0,000013 g		N/A		⚠
1%	0,000025 g		N/A		✓
2%	0,000050 g		N/A		✓
5%	0,000125 g		N/A		✓

\*Den udregnede standardafvigelse er lavere end afrundingsfejlen på vægten. Derfor bruges 0,41\*d reglen i forbindelse med repeterbarhedstesten.

Tolerancerne er opfyldt hvis standardafvigelsen er mindre end eller lig med den tilsvarende kontrolgrænse.

### Excentricitet

Anvendt lod: 100 g

Tolerance	Kontrolgrænse	Før service		Efter service	
		Afvigelse	Resultat	Afvigelse	Resultat
0,1%	0,05000 g	N/A	N/A	0,00026 g	✓
0,2%	0,10000 g		N/A		✓
0,5%	0,25000 g		N/A		✓
1%	0,50000 g		N/A		✓
2%	1,00000 g		N/A		✓
5%	2,50000 g		N/A		✓

Tolerancen er opfyldt hvis afvigelsen er mindre end eller lig med den tilsvarende kontrolgrænse.

Softwareversion: 1.23.0.229  
Rapportversion: 2.16.5  
Formular nummer: ACC

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Tillæg til kalibreringscertifikat:

dk0032-060-113021-ACC

GWP® Certifikat

**METTLER TOLEDO** Service

## Fejlvissning

Efter service

Referenceværdi	Fejl	Kontrolgrænser for forskellige tolerancer					
		0,1%	0,2%	0,5%	1%	2%	5%
0,00000 g	0,00000 g	N/A	N/A	N/A	N/A	N/A	N/A
50,00000 g	0,00001 g	0,02500 g	0,05000 g	0,12500 g	0,25000 g	0,50000 g	1,25000 g
99,99999 g	0,00001 g	0,05000 g	0,10000 g	0,25000 g	0,50000 g	1,00000 g	2,50000 g
150,0000 g	0,0000 g	0,0750 g	0,1500 g	0,3750 g	0,7500 g	1,5000 g	3,7500 g
220,0001 g	0,0000 g	0,1100 g	0,2200 g	0,5500 g	1,1000 g	2,2000 g	5,5000 g
Resultat		✓	✓	✓	✓	✓	✓

Tolerancen er opfyldt hvis fejlen (visningsfejlen) for hvert målepunkt er mindre end eller lig med den tilhørende kontrolgrænse for denne specifikke tolerance. Resultater på eller tæt på 0 kan ikke vurderes.

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### Course content

- Introduction about Freedom EVO Instrument and all of its module devices
- How to repair and exchange single parts of the devices
- Installation and Operation Qualification / Preventive Maintenance
- Perform Basic Setup's and Test's in S&S Software
- Introduction and use of the Tecan QC kit
- Troubleshooting and Error Handling
- Test and Certification

Tecan recommends a recertification every two years. Tecan employees are required to renew certification every two years.  
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