

Customer

Name	RT
Contact person	Bo Simonsen
Address	Københavns Universitet København Ö Frederik V's Vej 11 35326288
Postal code / City	2100 København Ö
Country	DK

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 document, and agree that the testing results meet specified business and quality requirements. 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. Tecan accepts and judge these as - NOT APPLICABLE – fields related to the scope of this page.

Statement of disclaimer

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Total Pages in Report - 40

List of documents

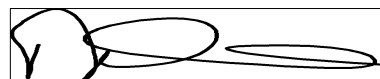
Date	Document name	Description
15.06.2017	ServiceReport_4314626_Københavns Universitet.pdf	Service Report
15.06.2017	evo sn 811002518 PM 392819 v3.4.pdf	PM doc
15.06.2017	SnSFrame - LiHa_Tip_Adapter_811002519_14Jun2017_14-25-59.pdf	Tip adapter test
15.06.2017	SnSFrame - DiTiTest_811002519_14Jun2017_14-57-31.pdf	Diti test
15.06.2017	SnSFrame - FaWa_LLD_811002518_14Jun2017_14-49-12.pdf	Fawa og LLD test
15.06.2017	SnSFrame - LiquidSystem_Gravimetric_Test_811002518_14Jun2017_18-05-16.pdf	Udvejning 10 og 100 ul test
15.06.2017	SnSFrame - PosID3_811002521_14Jun2017_15-10-39.pdf	PosID test
15.06.2017	SnSFrame - Safety_8420906_14Jun2017_15-01-40.pdf	Safety test
15.06.2017	SnSFrame - TeShake_7946_14Jun2017_14-59-40.pdf	Te-shake test
15.06.2017	SnSFrame - Te-VacS_64258_15Jun2017_10-27-29.pdf	Te Vac test
15.06.2017	Information_Print - QC-Report.pdf	System info
15.06.2017	Mettler Toledo WXSS205DU sn B446253846 - 19 nov201620161120.pdf	Certificate balance

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

I herewith confirm that I have authored the above listed documents; I have checked that 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.

Niels Andersen


Date of signature: 15.06.2017

**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 reflect the procedures described.

RT

Date of signature: 15.06.2017



Service order number	4314626	Phone	35326288
Customer's adress	Københavns Universitet Retsmedicinsk Institut 2100 København Ø Frederik V's Vej 11 35326288	Contact person	Bo Simonsen
		Date call received	05.10.2016
		Date of service	15.06.2017
		PO number	rekvisition 27199

Equipment number	10433798	Serial number	811002518
UDI			
Equipment description	INSTRUMENT FREEDOM EVO 200 BASE UNIT		
Symptoms - Group code	999	Symptoms - Coding	030

Solution/Corrective action	<p>Årlig vedligeholdelse iflg Tecan dokument. Instrument testet og fundet OK. Random move testet ikke udført da der er forhindringer på arbejdsbordet. RoMa move test ikke udført da RoMa gripper af typen long. Gravimetric validation performed using Tecan tips PN10612533 og lot Number 5059918.</p>
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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
10619404	TUBE WASTE PVC 9*12MM 2500MM GENESIS	1,00			Z5
10760619	SEAL RING WASTE BOTTLE	2,00			Z5
10619863	CABLE ILID SET 4 PCE. GENESIS FREEDOM	2,00			Z5
10619401	TUBE ASP.PVC 6*9MM 5000MM GENESIS	2,00			Z5
10619532	SYRINGE 1.0ML NEW	8,00			Z5
30017612	ADAPTER TIP REED CONT. W/O PMP SENSOR	10,00			Z5
10619408	TUBING PIP. FEP 2.5*1.5MM 3100MM SP	8,00			Z5
10649016	VALVE 3-WAY 120° M6 DILUTER XP SMART	8,00			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

Date	Work Hours	BC	Travel Hours	BC	Distance	BC
15.06.2017		8,00 Z5		4,00 Z5		
15.06.2017		2,00 Z5		2,00 Z5		
14.06.2017		8,00 Z5		1,00 Z5		

Date: 15.06.2017	Tecan		Customer	
	Signature		Signature	

Preventive Maintenance 392819 V3.4 Freedom EVO

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. It is filled out during the maintenance process. In the following sections place a checkmark in the check box that applies. Many steps within Setup and Service software have the option to print out data/result sheets once the step is complete. When a print option is available: print out, sign, and date the data/result sheets. Upload sheets to SAP (as a Tecan Service Organization) or file them in the instrument logbook.

Customer Information		Instrument Information	
For customer and instrument information, please fill out the form or refer to Service Order No.			
Service Order No.	4314626	Instrument Serial Number	811002518
Contact Account	Kbh Universitet	Freedom EVO Clinical:	100 <input type="checkbox"/> 150 <input type="checkbox"/> 200 <input type="checkbox"/>
Contact Person	Ragnar homsen	Freedom EVO:	75 <input type="checkbox"/> 100 <input type="checkbox"/> 150 <input type="checkbox"/> 200 <input checked="" type="checkbox"/>
Lab Site	Retskemisk Afd.	New installation:	<input type="checkbox"/> Used before: <input checked="" type="checkbox"/>
Address	Frederik V's vej 11, 3 sal	Arm configuration Arm (left) LiHa <input checked="" type="checkbox"/> A-LiHa <input type="checkbox"/> RoMa <input type="checkbox"/> PnP <input type="checkbox"/> MCA <input type="checkbox"/> Arm (middle) LiHa <input type="checkbox"/> A-LiHa <input type="checkbox"/> RoMa <input type="checkbox"/> PnP <input type="checkbox"/> MCA <input type="checkbox"/> Arm (right) LiHa <input type="checkbox"/> A-LiHa <input type="checkbox"/> RoMa <input checked="" type="checkbox"/> PnP <input type="checkbox"/> MCA <input type="checkbox"/> Additional Modules PosID <input checked="" type="checkbox"/> 8+1 access <input type="checkbox"/>	
Zip Code + City	København Ø	LiHa Tip configuration (e.g. Fixed Tip, DiTi, Mixed) DiTi	
Country	DK	MCA Tip configuration (e.g. Fixed Tip, DiTi, Mixed)	
Service Engineer	Johan Lagmo og Niels Andersen		

In the following section all setups and tests have to be performed according to the instrument configuration. Therefore, please select on the right side of this column the instrument type and module configuration. The checkbox "0_ALWAYS SELECT" includes mandatory fields and is required to be selected. Modules not selected will be hidden with the filter and are therefore not applicable. In case a module is installed twice, perform the tests on each module and attach both print outs.

1. Select configuration

Reference Documents

Document Name	Doc #	Version	N/A
Freedom EVO-1 Service Manual	392887		<input checked="" type="checkbox"/>
Freedom EVO-2 Service Manual	393828	7.8	<input type="checkbox"/>
Freedom EVO-75 Service Manual	394880		<input checked="" type="checkbox"/>
Freedom EVO Clinical Operating Manual	393062		<input checked="" type="checkbox"/>
Freedom EVO Operating Manual	392886	8.1	<input type="checkbox"/>
Freedom EVO 75 Operating Manual	393248		<input checked="" type="checkbox"/>
Instrument Software Manual	392888	6.4	<input type="checkbox"/>
Out of Box Quality Report (393030)	10301Tm01		<input checked="" type="checkbox"/>
Certificate of Decontamination (CoD)	40205Tm01		<input checked="" type="checkbox"/>
Others			<input checked="" type="checkbox"/>

System

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

Liquid LiHa

Task	Interval	Further Description	N/A	Done	Passed	Failed
Arm	12 months	Visually inspect		<input checked="" type="checkbox"/>		
Support tubing	12 months	Check condition		<input checked="" type="checkbox"/>		
Support tubing	12 months	Replace if necessary	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
Z-Rod	12 months	Clean and apply thin layer of grease		<input checked="" type="checkbox"/>		
Fixed Tips	12 months	Replace	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
DiTi cone and tube extension	12 months	Replace	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Waste tubing	12 months	Check condition		<input checked="" type="checkbox"/>		
Waste tubing	12 months	Replace if damaged, clogged or dirty	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
Diluters	12 months	Replace syringes	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Diluters	12 months	Replace 3-way valves	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Liquid system	12 months	Replace aspirating tubing	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Liquid system	12 months	Replace interconnecting tubing	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Liquid system	12 months	Replace pipetting tubing	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Tip Adapter	24 months	Replace Tip Adapter (DiTi systems only)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Liquid Detection	24 months	Replace ILiD cables	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>

RoMa

Task	Interval	Further Description	N/A	Done	Passed	Failed
Arm	12 months	Visually inspect		<input checked="" type="checkbox"/>		<input type="checkbox"/>
Z-Rod	12 months	Clean		<input checked="" type="checkbox"/>		<input type="checkbox"/>

System Devices / Move Test

Test	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
Random Move Test	Duration 600 cycles, Re-init 200 cycles	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
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	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

System Devices / LiHa

Test	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
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Verify Reference Positions	Reference positions accurately	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Tip Adapter Test	Test passed with all available channels			<input checked="" type="checkbox"/>	<input type="checkbox"/>
Flush tips once sequentially	Order of pipetting tubing is correct			<input checked="" type="checkbox"/>	<input type="checkbox"/>

Liquid System / DiTi Test (LiHa)

Test	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
(Lower) DiTi Eject Test	Test passed with all available channels	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Liquid System / Liquid System (LiHa)

Test (A minimum of 2 tests need to be performed)	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
Liquid Level Detection Test	Test passed with trough rack	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liquid Level Detection Test	Test passed with micro plate	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Liquid Level Detection Test	Test passed with strip rack	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Liquid System / Liquid System

Test	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
FaWa Test	Test passed with all available channels			<input checked="" type="checkbox"/>	<input type="checkbox"/>

Liquid LiHa Gravimetric Precision Test

N/A

It's required to perform the tests at all indicated volumes of the appropriate tip configuration with either the Gravimetric Precision Test or QC Kit. Check N/A in case tests are done with the QC Kit.

Tip Type	Liquid System	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
Fixed Tip Low Volume	Syringe 250µl or 500µl Low Volume Option ¹⁾	Test passed at 1µl with CV≤ 10.0%	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Fixed Tip Low Volume	Syringe 250µl or 500µl Low Volume Option ¹⁾	Test passed at 10µl with CV≤ 3.5%	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Fixed Tip Standard Volume	Syringe 1ml	Test passed at 10µl with CV≤ 3.5% and at 100µl with CV≤ 0.75%	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
DiTi 10µl	Syringe 250µl or 500µl Low Volume Option ¹⁾	Test passed at 1µl with CV≤ 10.0%	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
DiTi 10µl	Syringe 250µl or 500µl	Test passed at 1µl with CV≤ 10.0%	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
DiTi 10µl	Syringe 250µl or 500µl	Test passed at 10µl with CV≤ 3.5%	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
DiTi 200µl or 1ml	Syringe 1ml, 250µl or 500µl	Test passed at 10µl with CV≤ 3.5% and at 100µl with CV≤ 0.75%	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Test for none-standard configuration, 1st measurement = reference, 2nd measurement = comparison to reference	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

¹⁾ Test performed with activated pinch valve. ²⁾ Test performed with deactivated or without pinch valve.

Liquid LiHa Precision Test with QC Kit

N/A

It's required to perform the tests at all indicated volumes of the appropriate tip configuration with either the Gravimetric Precision Test or QC Kit. Check N/A in case tests are done with the Balance.

Tip Type	Liquid System	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
Fixed Tip Low Volume	Syringe 250µl or 500µl, LV tubing ²⁾	Test passed at 1µl with CV≤ 10.0% and at 10µl with CV≤ 3.5%	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Fixed Tip Low Volume	Syringe 1ml, LV tubing ²⁾	Test passed at 10µl with CV≤ 3.5%	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Fixed Tip Standard Volume	Syringe 1ml	Test passed at 10µl with CV≤ 3.5% and at 100µl with CV≤ 1.0%*	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
DiTi 10µl	Syringe 250µl or 500µl	Test passed at 1µl with CV≤ 10.0% and at 10µl with CV≤ 3.5%	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
DiTi 200µl or 1ml	Syringe 1ml, 250µl or 500µl	Test passed at 10µl with CV≤ 3.5% and at 100µl with CV≤ 1.0%*	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
		Test for none-standard configuration, 1st measurement = reference, 2nd measurement = comparison to reference	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

* The different methods mentioned above are intended to verify that the system is operating within its specifications. Please be aware that different measurement methods have different inherent systematic measurement errors and therefore the acceptance values can be different. Details can be found in the operating manual. ²⁾ Test performed with deactivated or without pinch valve.

System Devices / RoMa

Test	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
Reference Plate Test	passed with 10 cycles			<input type="checkbox"/>	<input type="checkbox"/>

System Devices / PosID

Test	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
Reading Position (PosID-3)	Test passed			<input checked="" type="checkbox"/>	<input type="checkbox"/>
No Tube Sensor	Test passed			<input checked="" type="checkbox"/>	<input type="checkbox"/>
Barcode Reading	Test passed with 5 cycles			<input checked="" type="checkbox"/>	<input type="checkbox"/>

Options / Access Status Options

Test	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
I/O Module Tests	Test passed	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Loading Interface Tests	Test passed	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
RSS Tests	Test passed	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
SPO/MPO Sensor Tests	Test passed	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Safety Tests	Test passed			<input checked="" type="checkbox"/>	<input type="checkbox"/>

Options / Te-Shake

Test	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
Te-Shake	Test passed			<input checked="" type="checkbox"/>	<input type="checkbox"/>

Options / Te-VacS

Test	Acceptance Criteria / Further Description	N/A	Done	Passed	Failed
Te-VacS	Test passed			<input checked="" type="checkbox"/>	<input type="checkbox"/>

Additional Tests		N/A			
Check N/A in case no additional tests are required.		<input checked="" type="checkbox"/>			
Test	Describe test and acceptance values		Done	Passed	Failed
				<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>

Setup and Service Software Module					
Task	Further Description	N/A	Done	Passed	Failed
Create EEPROM backup files	Using the Instrument / Basic Setup panel within S&S		<input checked="" type="checkbox"/>		<input type="checkbox"/>
Make a print out of system information	Using the Instrument / Information panel within S&S		<input checked="" type="checkbox"/>		<input type="checkbox"/>

Tecan Mobile Tool					
The Tecan Mobile Tool/ SAP MAM (Mobile Asset Management), is a tool to update the equipments/instruments history or configuration into the Tecan database					
Task	Further Description	N/A	Done	Passed	Failed
Maintain equipment characteristics data	in SAP/MAM (e.g. SW version)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Tecan Maintenance Sticker					
Task	Further Description	N/A	Done	Passed	Failed
Fill in the due date for the next maintenance and place the sticker on the instrument	Please place the sticker on the top left side of the front safety panel or top cover (the sticker must be visible)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Notes	N/A
Use the MAM as the first choice for notes. Alternatively use lines below to explain customer specific setups or reasons why certain tasks in this document could not be completed or failed. If tests have failed, please ensure the Lab Manager or the responsible person is aware that the instrument might not be used for the intended application and may need some repair in order to be used as intended! Check N/A in case there are no comments.	<input checked="" type="checkbox"/>
Description / Comments	

The service technician confirms with signature/date, that the preventive maintenance of the instrument has been performed in accordance with this preventive maintenance checklist. Approval by the Lab Manager or responsible person is required. This document is required to be signed by the Lab Manager or authorized person unless it is part of the service document bundle in SAP. However, if the customer is in GxP environment ensure that this document is signed

14 + 15 juni 2017	Niels Andersen	
Maintenance Date	Name of Field Service Engineer	Name of Lab Manager
01-06-2018		
Next due date maintenance	Signature	Signature

LiHa Device Test

LiHa.dll Version: 1.25.1.0
 Panel.dll Version: 1.25.1.0
 Genesis.dll Version: 1.25.1.0
 GUIExtensions.dll Version: 1.24.1.0
 OSpp.dll Version: 1.23.1.0
 Setup and Service Version: 7.5.1.0
 Computer Name: NBSEMO002096.tecan.net

LiHa Serial Number: 811002519
 Instrument Type: EVO
 Instrument Serial Number: 811002518
 Tools [Type, SN]: None specified
 Date: 14/Jun/2017 14:25:59

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

Operator: Service

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

Axes							
	Offset	Displ	Range	Scale	Accel	Speed	Move Speed
X	1.0	-16.1	1586.1	0.9999	160.0	1000.0	100.0
Y	1.0	-90.0	283.8	0.9982	240.0	350.0	35.0
Ys	1.0	9.0	38.0	0.9989	240.0	350.0	35.0
Z1	7.9	-50.0	260.0	1.0000	200.0	400.0	40.0
Z2	7.6	-50.0	260.0	1.0000	200.0	400.0	40.0
Z3	7.8	-50.0	260.0	1.0000	200.0	400.0	40.0
Z4	7.7	-50.0	260.0	1.0000	200.0	400.0	40.0
Z5	7.9	-50.0	260.0	1.0000	200.0	400.0	40.0
Z6	7.7	-50.0	260.0	1.0000	200.0	400.0	40.0
Z7	7.8	-50.0	260.0	1.0000	200.0	400.0	40.0
Z8	7.6	-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	968891	968891	271274	14	-	-	ready
Y	960636	960636	87108	26	-	-	ready
Ys	961728	961728	87726	12	-	-	ready
Z1	3117322	3117322	202026	73	108585	0	ready
Z2	2309385	2309385	168257	33	72002	0	ready
Z3	2267951	2267951	165569	26	68437	0	ready
Z4	2256017	2256017	164573	20	68271	0	ready
Z5	2228345	2228345	162422	22	65528	0	ready

	Moves	Moves (cl)	Distance	No-Loads	Fetches DiTi's	Piercings	Status
Z6	2226687	2226687	162243	19	64794	0	ready
Z7	2198311	2198311	160181	20	61210	0	ready
Z8	2185751	2185751	159227	24	60217	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

DiTi Test Device Test

DiTiTest.dll Version: 1.18.1.0
 Panel.dll Version: 1.25.1.0
 Genesis.dll Version: 1.25.1.0
 GUIExtensions.dll Version: 1.24.1.0
 OSpp.dll Version: 1.23.1.0
 Setup and Service Version: 7.5.1.0
 Computer Name: NBSEMO002096.tecan.net

DiTi Test Serial Number: 811002519
 Instrument Type: EVO
 Instrument Serial Number: 811002518
 Tools [Type, SN]: None specified
 Date: 14/Jun/2017 14:57:31

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

Operator: Service

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.

Liquid Handling System

LiquidSystem.dll Version: 1.18.1.0
 Panel.dll Version: 1.25.1.0
 Genesis.dll Version: 1.25.1.0
 GUIExtensions.dll Version: 1.24.1.0
 OSpp.dll Version: 1.23.1.0
 Setup and Service Version: 7.5.1.0
 Computer Name: NBSEMO002096.tecan.net

Instrument Type: EVO
 Instrument Serial Number: 811002518
 Tools [Type, SN]: None specified
 Date: 14/Jun/2017 14:49:12

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

Operator: Service

Date:

Signature:

Devices

LiHa Arm

Serial Number: 811002519
 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: Chemical resistant type a or b

FaWa

Serial Number: 8400023
 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

Pass / Fail Criteria

Minimum expected throughput: see detailed results

Detailed Results

Tips	Throughput	Min throughput	Within limit
Tip 1, 200 EDiti	1314 ul/s	800 ul/s	Yes
Tip 2, 200 EDiti	1300 ul/s	800 ul/s	Yes
Tip 3, 200 EDiti	1283 ul/s	800 ul/s	Yes
Tip 4, 200 EDiti	1296 ul/s	800 ul/s	Yes
Tip 5, 200 EDiti	1260 ul/s	800 ul/s	Yes
Tip 6, 200 EDiti	1300 ul/s	800 ul/s	Yes
Tip 7, 200 EDiti	1331 ul/s	800 ul/s	Yes
Tip 8, 200 EDiti	1265 ul/s	800 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 ²]:	7000
Prefill Aspiration Deceleration [ul/sec ²]:	7000
Prefill Aspiration Speed [ul/sec]:	100
Prefill Dispense Acceleration [ul/sec ²]:	15000
Prefill Dispense Deceleration [ul/sec ²]:	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	0.3	0.5	0.3	0.3	0.3	0.3	0.3	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	46.4	46.1	46.5	46.0	46.1	45.8	45.9	45.8
z-in-max	46.7	46.6	46.8	46.3	46.4	46.1	46.2	46.0
z-in-dev	0.3	0.5	0.3	0.3	0.3	0.3	0.3	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	86.1	70.5	65.9	72.9	71.6	68.8	83.0	72.3
z-in-max	86.2	70.6	66.0	73.2	71.8	68.8	83.1	72.4
z-in-dev	0.1	0.1	0.1	0.3	0.2	0.0	0.1	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

Liquid Handling System

LiquidSystem.dll Version: 1.18.1.0
 Panel.dll Version: 1.25.1.0
 Genesis.dll Version: 1.25.1.0
 GUIExtensions.dll Version: 1.24.1.0
 OSpp.dll Version: 1.23.1.0
 Setup and Service Version: 7.5.1.0
 Computer Name: NBSEMO002096.tecan.net

Instrument Type: EVO
 Instrument Serial Number: 811002518
 Tools [Type, SN]: None specified
 Date: 14/Jun/2017 18:05:16

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

Operator: Service

Date:

Signature:

Devices

LiHa Arm

Serial Number: 811002519
 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: Chemical resistant type a or b

FaWa

Serial Number: 8400023
 Address: C6T30
 Firmware Version: V3.20-04/2007
 Bootware Version: V1.00-08/2003

Worktable: worktable template EVO

Balance

Balance type: WXSS205DU
 Serial number: B446253846
 Calibration date: 20161119
 Samples [count]: 5
 Tolerance [mg]: 0.10
 Weigh Delay [sec]: 0.5

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

Wash Volume [ul]: 1000

100 ul

Test

Cycles: 12

Max CV [%]: 0.750

Aspiration

Aliquotes: 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	14/Jun/2017 16:11:18	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	9.600	9.920	9.420	9.820	9.820	9.620	9.620	9.540	-
Meas 2	9.720	9.420	9.840	9.720	9.840	9.420	9.500	9.720	-
Meas 3	9.620	9.720	9.520	9.220	10.020	9.600	9.720	9.520	-
Meas 4	9.820	9.720	9.540	9.620	10.020	9.320	9.520	9.600	-
Meas 5	9.720	9.720	9.360	9.360	10.020	9.520	9.440	9.520	-
Meas 6	9.320	9.800	9.520	9.320	9.740	9.320	9.620	9.420	-
Meas 7	9.420	9.520	9.520	9.820	9.520	9.600	9.520	9.740	-
Meas 8	9.520	9.720	9.420	9.720	9.720	9.220	9.420	9.520	-

	Tip 1	Tip 2	Tip 3	Tip 4	Tip 5	Tip 6	Tip 7	Tip 8	All
Meas 9	9.620	9.800	9.400	9.320	9.820	9.520	9.320	9.300	-
Meas 10	9.540	9.920	9.420	9.320	9.720	9.220	9.520	9.620	-
Meas 11	9.420	9.620	9.640	9.220	9.540	9.600	9.820	9.120	-
Meas 12	9.220	9.720	9.520	9.620	9.820	9.320	9.320	9.620	-
Mean [mg]	9.545	9.717	9.510	9.507	9.800	9.440	9.528	9.520	9.571
Mean [ul]	9.545	9.717	9.510	9.507	9.800	9.440	9.528	9.520	9.571
Acc [%]	-4.550	-2.833	-4.900	-4.933	-2.000	-5.600	-4.717	-4.800	-4.292
CV [%]	1.840	1.497	1.367	2.464	1.714	1.636	1.569	1.829	2.078
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	100.520	101.020	100.900	100.200	100.320	100.460	100.120	100.400	-
Meas 2	100.520	101.220	101.020	100.320	100.520	100.420	99.920	100.320	-
Meas 3	100.920	100.880	101.020	100.420	100.820	100.560	100.060	100.420	-
Meas 4	100.000	100.900	100.920	100.000	100.340	100.120	99.400	100.320	-
Meas 5	100.020	100.720	100.820	100.220	100.420	100.120	100.040	100.620	-
Meas 6	100.500	101.020	100.600	100.020	100.700	100.420	100.120	100.200	-
Meas 7	100.200	100.600	100.320	100.320	100.420	100.520	99.620	100.000	-
Meas 8	100.120	100.520	100.420	100.420	100.320	100.320	99.620	100.340	-
Meas 9	100.020	100.720	100.600	100.120	100.320	100.100	99.920	100.420	-
Meas 10	100.200	101.220	100.300	100.420	100.320	100.360	100.120	100.320	-
Meas 11	100.240	100.700	100.620	100.120	100.420	100.240	100.120	100.120	-
Meas 12	99.820	100.620	100.620	100.420	100.520	100.120	100.020	100.020	-
Mean [mg]	100.257	100.845	100.680	100.250	100.453	100.313	99.923	100.292	100.377
Mean [ul]	100.257	100.845	100.680	100.250	100.453	100.313	99.923	100.292	100.377
Acc [%]	0.257	0.845	0.680	0.250	0.453	0.313	-0.077	0.292	0.377
CV [%]	0.305	0.235	0.254	0.159	0.162	0.168	0.244	0.179	0.339
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

PosID-3 Device Test

PosID3.dll Version: 1.18.1.0
 Panel.dll Version: 1.25.1.0
 Genesis.dll Version: 1.25.1.0
 GUIExtensions.dll Version: 1.24.1.0
 OSpp.dll Version: 1.23.1.0
 Setup and Service Version: 7.5.1.0
 Computer Name: NBSEMO002096.tecan.net

PosID-3 Serial Number: 811002521
 Instrument Type: EVO
 Instrument Serial Number: 811002518
 Tools [Type, SN]: None specified
 Date: 14/Jun/2017 15:10:39

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

Operator: Service

Date:

Signature:

Device

Parameters

	Offset	Displ	Range	Scale	Accel	Speed
X	1.0	-83.2	1663.8	1.0006	90.0	500.0
Y	1.0	-318.3	5.7	1.0000	140.0	360.0
B	10.0	-91.2	106.2	1.0000	140.0	200.0

Diagnostics

Power ups: 2356
 Minute meter: 708090
 FW downloads: 0
 FW page erased: 126

Axes

	Moves	Moves (cl)	Distance	No-Loads	Status
X	113739	113739	7892	24	ready
Y	94036	94036	12130	7	ready
B	40121	40121	3764	3	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

	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: 23
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: 1
From grid: 22
To grid: 23
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: 1
Number of carrier flags not read: 0
Number of barcodes read wrong: 0
Number of barcodes not read: 1
Number of No Tube sensor errors: 0
Number of y/b alignment failed: 0
Total number of errors: 1

ErrorList

	Cycle	Grid	Pos	Barcode	Error
1	4	22	Rack6	-	Not read

ReferenceRead

Carrier1

Grid: 22

Barcodes

	Barcode
Carrier flag	013/008407
Rack1	090/004896

	Barcode
Rack2	090/004897
Rack3	090/004895
Rack4	090/004894
Rack5	090/004890
Rack6	090/004888
Rack7	090/004891
Rack8	037/003725
Rack9	\$\$\$
Rack10	\$\$\$
Rack11	\$\$\$
Rack12	\$\$\$
Rack13	\$\$\$
Rack14	\$\$\$
Rack15	\$\$\$
Rack16	\$\$\$

Test Configuration: User Defined

Safety Device Test

Safety.dll Version: 1.21.1.0
Panel.dll Version: 1.25.1.0
Genesis.dll Version: 1.25.1.0
GUIExtensions.dll Version: 1.24.1.0
OSpp.dll Version: 1.23.1.0
Setup and Service Version: 7.5.1.0
Computer Name: NBSEMO002096.tecan.net

Safety Serial Number: 8420906
Instrument Type: EVO
Instrument Serial Number: 811002518
Tools [Type, SN]: None specified
Date: 14/Jun/2017 15:01:40

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

Operator: Service

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

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

Te-Shake Device Test

TeShake.dll Version: 1.25.1.0
 Panel.dll Version: 1.25.1.0
 Genesis.dll Version: 1.25.1.0
 GUIExtensions.dll Version: 1.24.1.0
 OSpp.dll Version: 1.23.1.0
 Setup and Service Version: 7.5.1.0
 Computer Name: NBSEMO002096.tecan.net

Te-Shake Serial Number: 7946
 Instrument Type: EVO
 Instrument Serial Number: 811002518
 Tools [Type, SN]: None specified
 Date: 14/Jun/2017 14:59:40

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

Operator: Service

Date:

Signature:

Device

Configuration

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

Diagnostics

Power up Counter: 2246
 Operating Time [minutes]: 685377
 Initialization Counter: 6836
 Movement Counter: 39126
 Overload Counter: 16

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

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

Te-VacS Device Test

TeVacS.dll Version: 1.23.1.0
 Panel.dll Version: 1.25.1.0
 Genesis.dll Version: 1.25.1.0
 GUIExtensions.dll Version: 1.24.1.0
 OSpp.dll Version: 1.23.1.0
 Setup and Service Version: 7.5.1.0
 Computer Name: NBSEMO002096.tecan.net

Te-VacS Serial Number: 64258
 Instrument Type: EVO
 Instrument Serial Number: 811002518
 Tools [Type, SN]: None specified
 Date: 15/Jun/2017 10:27:29

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

Operator: Service

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	70
Extraction valve	15	3
Leakage test initial	60	55
Maximum leakage	5	60
Ventilation valve	9	3

Detailed Results

Ventilation Valve

	Leakage Test Initial Time [s]	Leakage Pressure [kPa]	Flowrate Pressure [kPa]
Valve 1	17.379	2	27
Valve 2	17.098	2	29

Ambient Pressure Equalisation Time [s]: 4.305**Extraction Valve**

	Maximum Pump Performance Time [s]	Flowrate Pressure [kPa]
Valve 1	20.296	63
Valve 2	19.687	63

Instrument Information

Information.dll Version: 1.23.1.0
 Panel.dll Version: 1.25.1.0
 Genesis.dll Version: 1.25.1.0
 GUIExtensions.dll Version: 1.24.1.0
 OSpp.dll Version: 1.23.1.0
 Setup and Service Version: 7.5.1.0
 Computer Name: NBSEMO002096.tecan.net

Instrument Type: EVO
 Instrument Serial Number: 811002518
 Tools [Type, SN]: None specified
 Date: 15/Jun/2017 10:44:54

Operator: Service

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	1602.2	1.2	na
2	RoMa	C1	1602.2	1.2	na

Diagnostics Data

Power Ups: 2387

On Time [h]: 26553.34

Downloads: 2

Page erases: 295

Device Information

	Device	Firmware	Bootware	Serial Number
O2	6VALVE	V0.03-02/2007	V1.00-11/99	0
C2T00	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C2T02	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
C2T04	DCSERVO2	V1.21-04/2007	V1.00-05/2003	-
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	-
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	810003342
C6T21	XP2000	V1.10-03/2006	V1.02-04/2002	810003343
C6T22	XP2000	V1.10-03/2006	V1.02-04/2002	810003344
C6T23	XP2000	V1.10-03/2006	V1.02-04/2002	810003345
C6T24	XP2000	V1.10-03/2006	V1.02-04/2002	810003346
C6T25	XP2000	V1.10-03/2006	V1.02-04/2002	810004203
C6T26	XP2000	V1.10-03/2006	V1.02-04/2002	810004204
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	811002519
C6T30	MPO	V3.20-04/2007	V1.00-08/2003	8400023
O7	ORBI	V1.10-07/2001	V1.20-09/99	7946
P1	POSID3	V1.21-08/2007	V1.10-04/2007	811002521
C1	ROMACU	V2.21-09/2007	V1.10-04/2007	811002520
O1	SAFY	V1.30-04/2008	V1.10-12/99	8420906
O5	SPE	V2.10-12/01	V1.00-11/99	64258
M1	TECU	V1.40-12/2007	V1.10-07/2005	811002518

LiHa Arm

Address: C5
 Serial Number: 811002519
 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	-16.1	1586.1	0.9999	160.0	1000.0	100.0
Y	1.0	-90.0	283.8	0.9982	240.0	350.0	35.0

	Offset	Displ	Range	Scale	Accel	Speed	Move Speed
Ys	1.0	9.0	38.0	0.9989	240.0	350.0	35.0
Z1	7.9	-50.0	260.0	1.0000	200.0	400.0	40.0
Z2	7.6	-50.0	260.0	1.0000	200.0	400.0	40.0
Z3	7.8	-50.0	260.0	1.0000	200.0	400.0	40.0
Z4	7.7	-50.0	260.0	1.0000	200.0	400.0	40.0
Z5	7.9	-50.0	260.0	1.0000	200.0	400.0	40.0
Z6	7.7	-50.0	260.0	1.0000	200.0	400.0	40.0
Z7	7.8	-50.0	260.0	1.0000	200.0	400.0	40.0
Z8	7.6	-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	970101	970101	271416	14	-	-	ready
Y	961833	961833	87228	26	-	-	ready
Ys	962925	962925	87845	12	-	-	ready
Z1	3119159	3119159	202224	73	108636	0	ready
Z2	2311221	2311221	168454	33	72053	0	ready
Z3	2269788	2269788	165767	26	68488	0	ready
Z4	2257853	2257853	164771	20	68322	0	ready
Z5	2230181	2230181	162620	23	65579	0	ready
Z6	2228523	2228523	162440	19	64845	0	ready
Z7	2200148	2200148	160379	20	61261	0	ready
Z8	2187587	2187587	159424	24	60268	0	ready

Te-Fill: NA

RoMa Arm

Address: C1
 Serial Number: 811002520
 Firmware Version: V2.21-09/2007
 Bootware Version: V1.10-04/2007
 Type: Eccentric Gripper, CW Rotator, Standard Z-Range

Axes Parameters

	Offset	Displ	Range	Scale	Accel	Speed	Move Speed
X	2.0	122.1	1724.3	0.9997	160.0	1000.0	100.0
Y	1.0	-61.7	323.2	1.0169	100.0	350.0	80.0
Z	1.0	0.0	254.0	1.0000	85.0	130.0	50.0
R	5.2	0.0	274.0	0.9978	60.0	200.0	60.0
G	2.0	56.0	139.0	1.0000	30.0	40.0	10.0

Gripper PWM[%]: 75

Diagnostics Data

Gripped Plates: 113788

Axes

	Moves	Moves (cl)	Distance	No-Loads	Status
X	584571	584571	116289	15	ready
Y	527651	527651	43616	3	ready
Z	1523082	1523082	54960	1	ready
R	290643	290643	21745	27	not loaded
G	206173	206173	4011	174	ready

PosID3

Address: P1
 Serial Number: 811002521
 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

Axes Parameters

	Offset	Displ	Range	Scale	Accel	Speed
X	1.0	-83.2	1663.8	1.0006	90.0	500.0
Y	1.0	-318.3	5.7	1.0000	140.0	360.0
B	10.0	-91.2	106.2	1.0000	140.0	200.0

Diagnostics Data

Power ups: 2358
 Minute meter: 709221
 FW downloads: 0
 FW page erased: 127

Axes

	Moves	Moves (cl)	Distance	No-Loads	Status
X	113745	113745	7892	24	ready
Y	94040	94040	12130	7	ready
B	40123	40123	3764	3	ready

Version Information

System Modules

	Version	Description	Copyright	Original Filename	Product Name
SnSFrame.exe	7.5.1.0	Instrument Setup and Service Application	Copyright © 2016 by Tecan Trading AG	SnSFrame.exe	Setup and Service
Genesis.dll	1.25.1.0	Device library for GENESIS Instruments	Copyright © 2016 by Tecan Trading AG	Genesis.dll	Setup and Service
Panel.dll	1.25.1.0	Base classes for concrete Panel Modules	Copyright © 2016 by Tecan Trading AG	Panel.DLL	Setup and Service

	Version	Description	Copyright	Original Filename	Product Name
OSpp.dll	1.23.1.0	C++ wrapper for WinApp functions	Copyright © 2016 by Tecan Trading AG	OSpp.dll	Setup and Service
GUIExtensions.dll	1.24.1.0	GUI Extensions based on MFC controls. Used by Panel base classes and concrete panels	Copyright © 2016 by Tecan Trading AG	GUIExtensions.dll	Setup and Service
TCSDriver.dll	1.10.1.0	TCSDriver Tecan Communication Server	Copyright © 2016 by Tecan Trading AG	TCSDriver.dll	Setup and Service
TLSDriver.dll	1.13.1.0	TLSDriver - Tecan Login Server	Copyright © 2016 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	1.6.1.0	Setup and QC Test module for AirLiHa	Copyright © 2016 by Tecan Trading AG	AirLiHa.dll	Setup and Service	7.5
Autoloader.dll	1.22.1.0	Setup and QC Test module for Autoloader	Copyright © 2016 by Tecan Trading AG	Autoloader.DLL	Setup and Service	7.5
BasicSetup.dll	1.25.1.0	Setup module for basic setups	Copyright © 2016 by Tecan Trading AG	BasicSetup.dll	Setup and Service	7.5
CGM.dll	1.10.1.0	Setup and QC Test module for CGM	Copyright © 2016 by Tecan Trading AG	CGM.DLL	Setup and Service	7.5
CheckCarrierPosition.dll	1.16.1.0	Tool to check carrier positions according to worktable DB	Copyright © 2016 by Tecan Trading AG	CheckCarrierPosition.DLL	Setup and Service	7.5
CommandTool.dll	1.23.1.0	Tool module for FW Commands	Copyright © 2016 by Tecan Trading AG	CommandTool.dll	Setup and Service	7.5
DiTiTest.dll	1.18.1.0	Setup and QC Test module for DiTiTest	Copyright © 2016 by Tecan Trading AG	DiTiTest.DLL	Setup and Service	7.5
Incubator.dll	2.11.1.0	Setup and QC Test module for Incubator	Copyright © 2016 by Tecan Trading AG	Incubator.DLL	Setup and Service	7.5
Information.dll	1.23.1.0	Tool module for Information	Copyright © 2016 by Tecan Trading AG	Information.dll	Setup and Service	7.5
IOModule.dll	1.21.1.0	Setup and QC Test module for I/O-Option	Copyright © 2016 by Tecan Trading AG	iomodule.DLL	Setup and Service	7.5
LiHa.dll	1.25.1.0	Setup and QC Test module for LiHa	Copyright © 2016 by Tecan Trading AG	LiHa.dll	Setup and Service	7.5
LiquidSystem.dll	1.18.1.0	Setup and QC Test module for Liquid System	Copyright © 2016 by Tecan Trading AG	Liquid System.DLL	Setup and Service	7.5

	Version	Description	Copyright	Original Filename	Product Name	Product Version
LoadingInterface.dll	1.21.1.0	Setup and QC Test module for Loading Interface of EVO	Copyright © 2016 by Tecan Trading AG	LoadingInterface.DLL	Setup and Service	7.5
MCA.dll	1.16.1.0	Setup and QC Test module for MCA	Copyright © 2016 by Tecan Trading AG	MCA.DLL	Setup and Service	7.5
MCA384.dll	1.10.1.0	Setup and QC Test module for MCA384	Copyright © 2016 by Tecan Trading AG	MCA384.DLL	Setup and Service	7.5
MCAWash.dll	1.9.1.0	Setup and QC Test module for MCAWash	Copyright © 2016 by Tecan Trading AG	MCAWash.DLL	Setup and Service	7.5
MoveTest.dll	1.25.1.0	QC Test Module for RoMa, LiHa and PosID Move Tests	Copyright © 2016 by Tecan Trading AG	MoveTest.dll	Setup and Service	7.5
PMP.dll	1.18.1.0	Setup and QC Test module for PMP	Copyright © 2016 by Tecan Trading AG	PMP.DLL	Setup and Service	7.5
PnP.dll	1.25.1.0	Setup and QC Test module for PnP	Copyright © 2016 by Tecan Trading AG	PnPModule.DLL	Setup and Service	7.5
PosID2.dll	1.22.1.0	Setup and QC Test module for PosID2	Copyright © 2016 by Tecan Trading AG	PosID2.DLL	Setup and Service	7.5
PosID3.dll	1.18.1.0	Setup and QC Test module for PosID3	Copyright © 2016 by Tecan Trading AG	PosID3.DLL	Setup and Service	7.5
Repositioner.dll	1.22.1.0	Setup and QC Test module for Repositioner	Copyright © 2016 by Tecan Trading AG	Repositioner.DLL	Setup and Service	7.5
Results.dll	1.21.1.0	Setup and QC Test module for Results	Copyright © 2016 by Tecan Trading AG	Results.DLL	Setup and Service	7.5
RoboticDevices.dll	1.18.1.0	Tool module for robotic devices	Copyright © 2016 by Tecan Trading AG	RoboticDevices.DLL	Setup and Service	7.5
RoMa.dll	1.25.1.0	Setup and QC Test module for RoMa	Copyright © 2016 by Tecan Trading AG	RomaModule.DLL	Setup and Service	7.5
Safety.dll	1.21.1.0	Setup and QC Test module for Safety	Copyright © 2016 by Tecan Trading AG	Safety.DLL	Setup and Service	7.5
SlideInBCR.dll	1.5.1.0	Setup and QC Test module for Slide In Barcode Scanner	Copyright © 2016 by Tecan Trading AG	SlideInBCR.dll	Setup and Service	7.5
SpoMpo.dll	1.21.1.0	Setup and QC Test module for SPO-MPO	Copyright © 2016 by Tecan Trading AG	SpoMpo.DLL	Setup and Service	7.5
Supervisor2.dll	1.21.1.0	Setup and QC Test module for Supervisor2	Copyright © 2016 by Tecan Trading AG	Supervisor2.DLL	Setup and Service	7.5
TeFill.dll	1.14.1.0	Setup and QC Test module for Te-Fill	Copyright © 2016 by Tecan Trading AG	TeFill.DLL	Setup and Service	7.5
TeLink.dll	1.22.1.0	Setup and QC Test module for Shuttle	Copyright © 2016 by Tecan Trading AG	Shuttle.DLL	Setup and Service	7.5
TeMags.dll	1.25.1.0	Setup and QC Test module for Te-MagS	Copyright © 2016 by Tecan Trading AG	TeMags.dll	Setup and Service	7.5
TeMO.dll	1.23.1.0	Setup and QC Test module for Te-MO Base	Copyright © 2016 by Tecan Trading AG	TeMO.DLL	Setup and Service	7.5

	Version	Description	Copyright	Original Filename	Product Name	Product Version
TeMOREfill.dll	1.23.1.0	Setup and QC Test module for Te-MO Refill	Copyright © 2016 by Tecan Trading AG	TeMOREfill.DLL	Setup and Service	7.5
TeMoWashUnit.dll	1.23.1.0	Setup and QC Test module for Te-MO Wash Unit	Copyright © 2016 by Tecan Trading AG	TeMoWashUnit.DLL	Setup and Service	7.5
TeShake.dll	1.25.1.0	Setup and QC Test module for Te-Shake	Copyright © 2016 by Tecan Trading AG	TeShake.DLL	Setup and Service	7.5
TeStack.dll	2.15.1.0	Setup and QC Test module for TeStack	Copyright © 2016 by Tecan Trading AG	TeStack.DLL	Setup and Service	7.5
TeVacs.dll	1.23.1.0	Setup and QC Test module for Te-Vacs	Copyright © 2016 by Tecan Trading AG	TeVacs.dll	Setup and Service	7.5

Mettler-Toledo A/S
Naverland 8
DK-2600 Glostrup

ACC Kalibreringscertifikat

Accuracy Calibration Certificate

Kunde

Firma:	Tecan Nordic		
Adresse:	Himmerlevvej 29		
By:	Roskilde	Kontaktperson:	Niels Andersen
Postnummer:	DK-4000	Ordrenummer:	81720

Vejestyr

Fabrikat:	Mettler Toledo	Instrument type:	Vægt
Model:	WXSS205DU	ID nummer:	N/A
Serienummer:	B446253846	Terminal model:	SWT
Placering:	N/A; N/A; N/A	Terminal serienummer:	B446253846
		Terminal ID nummer:	N/A
		Aftalenummer:	N/A

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

METTLER TOLEDO arbejdsinstruktion: Work Instruction ACC Calibration Certificate V 1.0

Dette kalibreringscertifikat indeholder målinger for kalibrering før og efter service.

Vægtens følsomhed blev justeret inden kalibrering før service og inden kalibrering efter service med et internt lod.

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

Dato for kalibrering før service	19-11-2016	Service tekniker:
Dato for kalibrering efter service	19-11-2016	
Næste kalibreringsdato:	18-11-2017	


Ronald Oelker

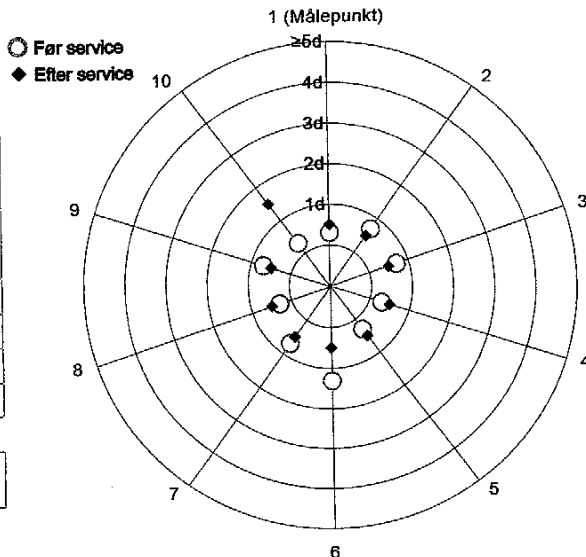
Måleresultater

Repeterbarhed

Anvendt lod: 10 g

	Før service	Efter service
1	9,99999 g	10,00000 g
2	10,00000 g	9,99999 g
3	10,00000 g	9,99999 g
4	9,99999 g	9,99999 g
5	9,99999 g	10,00000 g
6	9,99998 g	10,00000 g
7	10,00000 g	9,99999 g
8	9,99999 g	9,99999 g
9	10,00000 g	9,99999 g
10	9,99999 g	10,00001 g

Standardafvigelse	0,000007 g	0,000007 g
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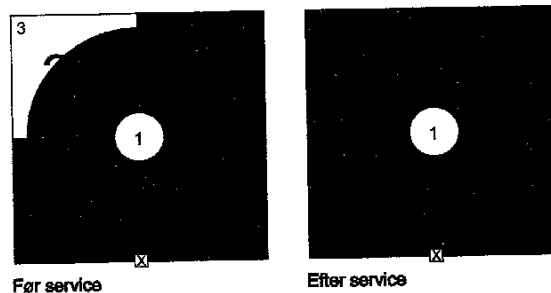
"d" i grafen repræsenterer delingen i det område/interval hvor testen blev udført. Resultaterne i denne graf er baseret på de absolutte værdier af differencen fra den sande værdi.

Excentricitet

Anvendt lod: 100 g

Position	Før service	Efter service
1	99,99979 g	99,99984 g
2	99,99985 g	99,99988 g
3	99,99976 g	99,99980 g
4	99,99973 g	99,99980 g
5	99,99983 g	99,99988 g

Max. Afvigelse	0,00006 g	0,00004 g
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"d" i grafen repræsenterer delingen i det område/interval hvor testen blev udført.

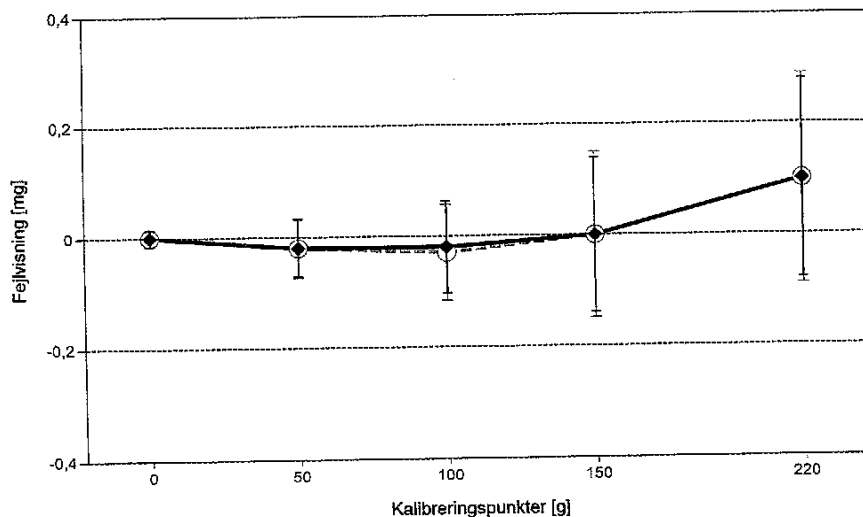
Fejlvisning

Før service

	Referenceværdi	Visning	Fejlvisning	Expanderet usikkerhe	k
1	0 g	0,00000 g	0,00000 g	0,015 mg	2
2	0,01000 g	0,01000 g	0,00000 g	0,016 mg	2
3	0,05000 g	0,05000 g	0,00000 g	0,016 mg	2
4	0,10001 g	0,10000 g	-0,00001 g	0,017 mg	2
5	0,99999 g	0,99998 g	-0,00001 g	0,019 mg	2
6	10,00000 g	9,99999 g	-0,00001 g	0,028 mg	2
7	49,99994 g	49,99992 g	-0,00002 g	0,054 mg	2
8	99,99987 g	99,99984 g	-0,00003 g	0,087 mg	2
9	149,9998 g	149,9998 g	0,0000 g	0,15 mg	2
10	220,0000 g	220,0001 g	0,0001 g	0,19 mg	2

Efter service

	Referenceværdi	Visning	Fejlvisning	Expanderet usikkerhe	k
1	0 g	0,00000 g	0,00000 g	0,015 mg	2
2	0,01000 g	0,01000 g	0,00000 g	0,017 mg	2
3	0,05000 g	0,05000 g	0,00000 g	0,017 mg	2
4	0,10001 g	0,10000 g	-0,00001 g	0,017 mg	2
5	0,99999 g	0,99999 g	0,00000 g	0,019 mg	2
6	10,00000 g	9,99999 g	-0,00001 g	0,028 mg	2
7	49,99994 g	49,99992 g	-0,00002 g	0,052 mg	2
8	99,99987 g	99,99985 g	-0,00002 g	0,083 mg	2
9	149,9998 g	149,9998 g	0,0000 g	0,14 mg	2
10	220,0000 g	220,0001 g	0,0001 g	0,18 mg	2



Usikkerheden er angivet som den ekspanderede usikkerhed ved kalibrering og fremkommer ved at multiplicere den kombinerede standardusikkerhed med dækningsfaktoren k - som kan være større end 2 ifølge EURAMET cg-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 vejestrumentet som da det blev kalibreret.

Vægtens måleusikkerhed i brug

Den ekspanderede usikkerhed i brug med $k = 2$. Formlen anvendes til beregning af usikkerheden i henhold til de opnåede fejlværdier. Værdien R repræsenterer nettobelastningen angivet i den af vægten anvendte måleenhed.

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

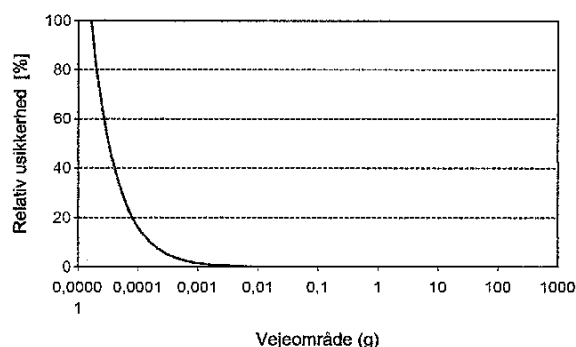
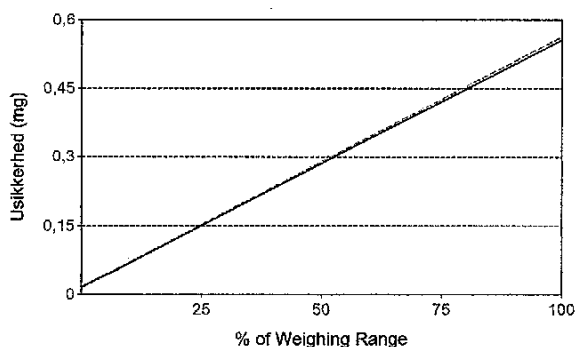
Det anvendte temperaturområde i forbindelse med udregning af måleusikkerheden: $4 K$

Linearisering af usikkerhedsberegningen

	Område	Før service	Efter service
1	0 g - 111 g	$U_1 = 0,016 \text{ mg} + 0,00493 \text{ mg/g} \cdot R$	$U_1 = 0,016 \text{ mg} + 0,00486 \text{ mg/g} \cdot R$
2	111 g - 220 g	$U_2 = 0,57 \text{ mg} + 0,00505 \text{ mg/g} \cdot (R - 111 \text{ g})$	$U_2 = 0,56 \text{ mg} + 0,00499 \text{ mg/g} \cdot (R - 111 \text{ g})$

Eksempler på forskellige nettovisninger

Nettovisning	Før service		Efter service	
0,00220 g	0,016 mg	0,73%	0,016 mg	0,73%
0,02200 g	0,016 mg	0,073%	0,016 mg	0,073%
0,22000 g	0,017 mg	0,0077%	0,017 mg	0,0077%
2,20000 g	0,027 mg	0,0012%	0,027 mg	0,0012%
220,0000 g	1,1 mg	0,00050%	1,1 mg	0,00050%



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

Referencelodder

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:	23849	Udstedelsesdato:	23-03-2016
Certifikatnummer:	144481	Kalibrerings forfaldsdato:	23-03-2018

Bemærkninger

Kalibrering udført i METTLER TOLEDOS faciliteter
Vægten er kalibreret med servicevejehus

GWP® Certifikat



Før service



Efter service



Vægten overholder procestolerancerne.

Vægten overholder procestolerancerne.

Test udført:

☒ Før service

☒ Efter service

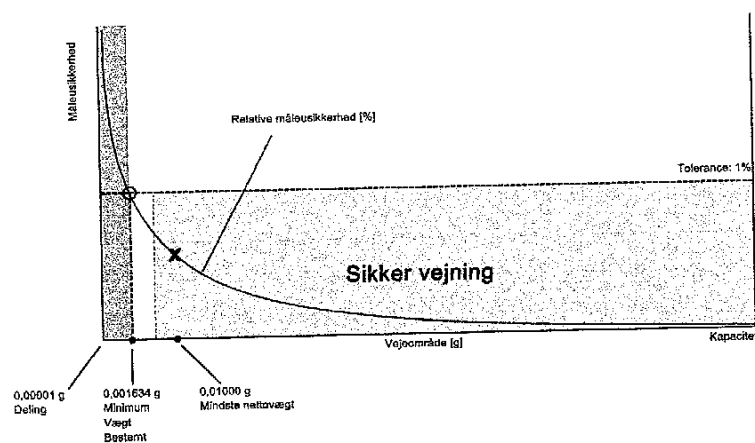
Proceskrav

Tolerance: 1%

Mindste nettovægt: 0,01000 g

Sikkerhedsfaktor: 2

Sikkert vejeområde



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

Minimumsvægt

Før service Minimumsvægtstabel

Område 1

Minimumsvægt for forskellige vejtolerancer og sikkerhedsfaktorer					
Tolerance	Sikkerhedsfaktor				
	1	2	3	5	10
0,1%	0,015854 g	0,031867 g	0,048039 g	0,080874 g	0,165941 g
0,2%	0,007908 g	0,015854 g	0,023841 g	0,039933 g	0,080874 g
0,5%	0,003158 g	0,006323 g	0,009494 g	0,015854 g	0,031867 g
1%	0,001578 g	0,003158 g	0,004740 g	0,007908 g	0,015854 g
2%	0,000789 g	0,001578 g	0,002368 g	0,003949 g	0,007908 g
5%	0,000316 g	0,000631 g	0,000947 g	0,001578 g	0,003158 g

Tabellen over minimumsvægt gælder det lave område på vægten.



OK: Den fundne minimumsvægt opfylder kravene til mindste nettovægt.

Efter service Minimumsvægtstabel

Område 1

Minimumsvægt for forskellige vejtolerancer og sikkerhedsfaktorer					
Tolerance	Sikkerhedsfaktor				
	1	2	3	5	10
0,1%	0,016410 g	0,032981 g	0,049715 g	0,083685 g	0,171647 g
0,2%	0,008185 g	0,016410 g	0,024675 g	0,041327 g	0,083685 g
0,5%	0,003269 g	0,006545 g	0,009827 g	0,016410 g	0,032981 g
1%	0,001634 g	0,003269 g	0,004906 g	0,008185 g	0,016410 g
2%	0,000817 g	0,001634 g	0,002451 g	0,004087 g	0,008185 g
5%	0,000327 g	0,000653 g	0,000980 g	0,001634 g	0,003269 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.

Sikkerhedsfaktor før service er altid 1. Dette indebærer ingen sikkerhedsfaktor. Test udført før service udtrykker instrumentets adfærd fra sidst det blev kalibreret og indtil testen fandt sted. For de målinger som er foretaget i den tid, er det nødvendigt at vide, at tolerancen er overholdt, men ikke sikkerhedsfaktoren. Sikkerhedsfaktoren er en proaktiv foranstaltning for fremtidige målinger.

Notater vedrørende minimumsvægtværdier i ovenstående tabel:

1. Hvis "N/A" er vist herover, så kunne værdien ikke beregnes korrekt.
2. METTLER TOLEDO er ikke ansvarlig for definitionen af proceskravene.
3. Bruger er forpligtet til at opretholde de miljøforhold og indstillinger, som vægten blev kalibreret under og med.

Måleresultater**Opsummering resultat**

	Repeterbarhed	Excentricitet	Fejlvisning
Før service	✓	✓	✓
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%	0,000005 g	0,000007 g	✗	0,000007 g	✗
0,2%	0,000010 g		✓		⚠
0,5%	0,000025 g		✓		✓
1%	0,000050 g		✓		✓
2%	0,000100 g		✓		✓
5%	0,000250 g		✓		✓

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	
		Afgivelse	Resultat	Afgivelse	Resultat
0,1%	0,05000 g	0,00006 g	✓	0,00004 g	✓
0,2%	0,10000 g		✓		✓
0,5%	0,25000 g		✓		✓
1%	0,50000 g		✓		✓
2%	1,00000 g		✓		✓
5%	2,50000 g		✓		✓

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

Fejlvisning**Før service**

		Kontrolgrænser for forskellige tolerancer					
Referenceværdi	Fejl	0,1%	0,2%	0,5%	1%	2%	5%
0 g	0,00000 g	N/A	N/A	N/A	N/A	N/A	N/A
50 g	-0,00002 g	0,02500 g	0,05000 g	0,12500 g	0,25000 g	0,50000 g	1,25000 g
100 g	-0,00003 g	0,05000 g	0,10000 g	0,25000 g	0,50000 g	1,00000 g	2,50000 g
150 g	0,0000 g	0,0750 g	0,1500 g	0,3750 g	0,7500 g	1,5000 g	3,7500 g
220 g	0,0001 g	0,1100 g	0,2200 g	0,5500 g	1,1000 g	2,2000 g	5,5000 g
Resultat		✓	✓	✓	✓	✓	✓

Efter service

		Kontrolgrænser for forskellige tolerancer					
Referenceværdi	Fejl	0,1%	0,2%	0,5%	1%	2%	5%
0 g	0,00000 g	N/A	N/A	N/A	N/A	N/A	N/A
50 g	-0,00002 g	0,02500 g	0,05000 g	0,12500 g	0,25000 g	0,50000 g	1,25000 g
100 g	-0,00002 g	0,05000 g	0,10000 g	0,25000 g	0,50000 g	1,00000 g	2,50000 g
150 g	0,0000 g	0,0750 g	0,1500 g	0,3750 g	0,7500 g	1,5000 g	3,7500 g
220 g	0,0001 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.