

Waters Corporation - Test Record

Part Number: <u>186015017</u>	Product: <u>H-Class Sample Manager FTN</u>
Operator: <u>25705598</u>	Start Time: <u>04/26/2018, 16:14:</u>
Serial Number: <u>C18SDI805G</u>	End Time: <u>04/26/2018, 19:24:</u>
Test System: <u>TE83064-14</u>	Order: <u>1804057</u>
Test Software: <u>1.42</u>	Location: <u>GES/Venture,SG</u>

TMD: TMD010420

TMD: TMD010476

Firmware: 1.71.395 (Feb 14 2018 09:30:12)

Name	LSL	Measurement	USL	Unit	Outcome
Electrical Safety Test					PASS
Power-on Initialization					PASS
Fans					PASS
Firmware Download					PASS
ReStart Initialization					PASS
Sample Compartment Door & Lights					PASS
Jumper Configuration	129	129			PASS
Test Event Inputs					PASS
Test Event Outputs					PASS
Test SPI Interface					PASS
Test Leak Detectors					PASS
Test Ecord Interface					PASS
Theta Drive Calibration					PASS
Tray Cal Offset	-180	163.67	180	Deg	PASS
R Axis Calibration					PASS
R Offset	-3	0.08	3	mm	PASS
Z Axis Calibration					PASS
Z Offset	-3	-0.77	3	mm	PASS
Needle Seal Calibration					PASS
Needle Seal Position	48	57.23	68	mm	PASS
Needle Seal Force	48	56.81	68	lb/inch	PASS
Zp Offset	-3	1.51	3	mm	PASS
Sample Tray Select Switch					PASS
Check Theta Drive Belt					PASS
R/Theta Positioner Test					PASS
1st Move Error	-0.3	0.13	0.3		PASS
Zp Pierce	-20	1	20	Lost Steps	PASS
Z Pierce	-20	1	20	Lost Steps	PASS
R Lost Steps	-20	1	20	Lost Steps	PASS
Sample Cooler Test		-0.9737	-0.6	Deg C/Min	PASS
Test Pressure Transducer	0.45	0.4784	0.55	PSI	PASS
BOS Pump Test					PASS
Methanol Prime					PASS
Sample Syringe Decay	-5	1.4	15	PSI	PASS
Dynamic Leak Test		10	500	nL/min	PASS
Needlewash Prime					PASS
Test Preblank Injections		0	781.9	area	PASS

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Carryover		0.01454	0.128	ppm	PASS
Chemistry Precision Area	0	0.0927	0.5	%RSD	PASS
Chemistry Precision Height	0	0.2435	0.9	%RSD	PASS
Chemistry X-Intercept	-0.2	0.0449	0.2	ul	PASS
Chemistry Linearity (R^2)	0.999	0.999961	1		PASS
Methanol Purge					PASS
Air Purge					PASS
Park Inject Valve					PASS
Home Needle					PASS
Save Serial Number					PASS

CPSM Final Test Overall Result - PASS

Signed: f Loh

Date: 26 APR 18

END OF DATA

Waters Corporation - Test Record

Part Number: <u>186015046</u>	Product: <u>I-Class Sample Manager FTN</u>
Operator: <u>25705598</u>	Start Time: <u>04/25/2018, 20:12:</u>
Serial Number: <u>D18USM950G</u>	End Time: <u>04/26/2018, 12:46:</u>
Test System: <u>TE83064-14</u>	Order: <u>1804087</u>
Test Software: <u>1.42</u>	Location: <u>GES/Venture,SG</u>

TMD: TMD010420

TMD: TMD010476

Firmware: 1.71.395 (Feb 14 2018 09:30:12)

Name	LSL	Measurement	USL	Unit	Outcome
Electrical Safety Test					PASS
Power-on Initialization					PASS
Fans					PASS
Firmware Download					PASS
ReStart Initialization					PASS
Sample Compartment Door & Lights					PASS
Jumper Configuration	133	133			PASS
Test Event Inputs					PASS
Test Event Outputs					PASS
Test SPI Interface					PASS
Test Leak Detectors					PASS
Test Ecord Interface					PASS
Theta Drive Calibration					PASS
Tray Cal Offset	-180	165.56	180	Deg	PASS
R Axis Calibration					PASS
R Offset	-3	0.27	3	mm	PASS
Z Axis Calibration					PASS
Z Offset	-3	-0.38	3	mm	PASS
Needle Seal Calibration					PASS
Needle Seal Position	48	57.1	68	mm	PASS
Needle Seal Force	48	55.88	68	lb/inch	PASS
Zp Offset	-3	1.13	3	mm	PASS
Sample Tray Select Switch					PASS
Check Theta Drive Belt					PASS
R/Theta Positioner Test					PASS
1st Move Error	-0.3	0.13	0.3		PASS
Zp Pierce	-20	0	20	Lost Steps	PASS
Z Pierce	-20	-2	20	Lost Steps	PASS
R Lost Steps	-20	0	20	Lost Steps	PASS
Sample Cooler Test		-0.8281	-0.6	Deg C/Min	PASS
Test Pressure Transducer	0.45	0.515	0.55	PSI	PASS
BOS Pump Test					PASS
Methanol Prime					PASS
Sample Syringe Decay	-5	-2.8	15	PSI	PASS
Dynamic Leak Test		-20	500	nL/min	PASS
Needlewash Prime					PASS
Test Preblank Injections		0	751.8	area	PASS

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Carryover		0.02473	0.04	ppm	PASS
Chemistry Precision Area	0	0.107	0.5	%RSD	PASS
Chemistry Precision Height	0	0.288	0.9	%RSD	PASS
Chemistry X-Intercept	-0.2	0.0172	0.2	ul	PASS
Chemistry Linearity (R^2)	0.999	1	1		PASS
Methanol Purge					PASS
Air Purge					PASS
Park Inject Valve					PASS
Home Needle					PASS
Save Serial Number					PASS

CPSM Final Test Overall Result - PASS

Signed: <i>f lah</i>	Date: <i>26 Apr 18</i>
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END OF DATA

Title: Installation Qualification Procedure

Document No: 730004135

Version No: 00

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IQ Test name: Functional Verification		Test Script No.: IQ-06	
Equipment No./ID: TE83064-14		Equipment Name: CPSM Final Test System	
Installation Site: Venture: WPPL, Singapore			
Purpose: To verify that system transfer and/or qualification activities have not adversely affected system functionality.			
Test Execution: One UUT shall be tested to verify that the test equipment functions as expected. If the system creates and/or tests more than one part number, the UUT to be tested per this Script should be a "worst case" product, and defined within the associated Installation Qualification Report. Enter N/A for any parameter or cell that is not used or applicable.			
Objective Evidence: Completed Test Script Data Sheet Copy of the system Test Record for the UUT, if applicable.			
UUT Part Number/Serial Number	Acceptance criteria	Pass/Fail	Initial & Date
UUT Part Number: 186015085 UUT Serial Number: D18FT001G	All required CTQ Specification measurements result in a Pass.	Pass	JE 30Apr2018
UUT Part Number: 186015088 UUT Serial Number: D18FN002G	All required CTQ Specification measurements result in a Pass.	Pass	JE 30Apr2018
Comments: See attachment for test record. JE 30Apr2018			
Overall Test Conclusion: ☒ Pass ☐ Fail			

Copy this Test Script as needed

Waters Confidential

Template 730000483 V06

It is the responsibility of the user to verify they are using the current released version.

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Waters Corporation - Test Record

Part Number: <u>186015085</u>	Product: <u>H-Class FTN Plus</u>
Operator: <u>25705598</u>	Start Time: <u>04/25/2018, 09:29:</u>
Serial Number: <u>D18FTP001G</u>	End Time: <u>04/25/2018, 12:30:</u>
Test System: <u>TE83064-14</u>	Order: <u>MVT1826A</u>
Test Software: <u>1.42</u>	Location: <u>GES/Venture,SG</u>

TMD: TMD010476

TMD: TMD010484

Firmware: 1.71.395 (Feb 14 2018 09:30:12)

Name	LSL	Measurement	USL	Unit	Outcome
Electrical Safety Test					PASS
Power-on Initialization					PASS
Fans					PASS
Firmware Download					PASS
ReStart Initialization					PASS
Sample Compartment Door & Lights					PASS
Jumper Configuration	129	129			PASS
Test Event Inputs					PASS
Test Event Outputs					PASS
Test SPI Interface					PASS
Test Leak Detectors					PASS
Test Ecord Interface					PASS
Theta Drive Calibration					PASS
Tray Cal Offset	-180	158.72	180	Deg	PASS
R Axis Calibration					PASS
R Offset	-3	0.87	3	mm	PASS
Z Axis Calibration					PASS
Z Offset	-3	-0.92	3	mm	PASS
Needle Seal Calibration					PASS
Needle Seal Position	48	57.21	68	mm	PASS
Needle Seal Force	48	58.17	68	lb/inch	PASS
Zp Offset	-3	1.13	3	mm	PASS
Sample Tray Select Switch					PASS
Check Theta Drive Belt					PASS
R/Theta Positioner Test					PASS
1st Move Error	-0.3	0.13	0.3		PASS
Zp Pierce	-20	1	20	Lost Steps	PASS
Z Pierce	-20	3	20	Lost Steps	PASS
R Lost Steps	-20	1	20	Lost Steps	PASS
Sample Cooler Test		-0.8779	-0.6	Deg C/Min	PASS
Test Pressure Transducer	0.45	0.502	0.55	PSI	PASS
BOS Pump Test					PASS
Methanol Prime					PASS
Sample Syringe Decay	-5	4.6	15	PSI	PASS
Dynamic Leak Test		13	500	nL/min	PASS
Needlewash Prime					PASS
Test Preblank Injections		0	496	area	PASS

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Carryover		0.01838	0.06	ppm	PASS
Chemistry Precision Area	0	0.1449	0.5	%RSD	PASS
Chemistry Precision Height	0	0.3034	0.9	%RSD	PASS
Chemistry X-Intercept	-0.2	0.0018	0.2	ul	PASS
Chemistry Linearity (R^2)	0.999	0.999986	1		PASS
Methanol Purge					PASS
Air Purge					PASS
Park Inject Valve					PASS
Home Needle					PASS
Save Serial Number					PASS

CPSM Final Test Overall Result - PASS

Signed: f h

Date: 25 APR 18

END OF DATA

Waters Corporation - Test Record

Part Number: <u>186015088</u>	Product: <u>I-Class FTN Plus</u>
Operator: <u>25705598</u>	Start Time: <u>04/25/2018, 13:41:</u>
Serial Number: <u>D18FNP002G</u>	End Time: <u>04/25/2018, 17:21:</u>
Test System: <u>TE83064-14</u>	Order: <u>MVT1827A</u>
Test Software: <u>1.42</u>	Location: <u>GES/Venture,SG</u>

TMD: TMD010476

TMD: TMD010487

Firmware: 1.71.395 (Feb 14 2018 09:30:12)

Name	LSL	Measurement	USL	Unit	Outcome
Electrical Safety Test					PASS
Power-on Initialization					PASS
Fans					PASS
Firmware Download					PASS
ReStart Initialization					PASS
Sample Compartment Door & Lights					PASS
Jumper Configuration	133	133			PASS
Test Event Inputs					PASS
Test Event Outputs					PASS
Test SPI Interface					PASS
Test Leak Detectors					PASS
Test Ecord Interface					PASS
Theta Drive Calibration					PASS
Tray Cal Offset	-180	159.62	180	Deg	PASS
R Axis Calibration					PASS
R Offset	-3	-0.21	3	mm	PASS
Z Axis Calibration					PASS
Z Offset	-3	-0.92	3	mm	PASS
Needle Seal Calibration					PASS
Needle Seal Position	48	56.88	68	mm	PASS
Needle Seal Force	48	52.32	68	lb/inch	PASS
Zp Offset	-3	1.13	3	mm	PASS
Sample Tray Select Switch					PASS
Check Theta Drive Belt					PASS
R/Theta Positioner Test					PASS
1st Move Error	-0.3	0.13	0.3		PASS
Zp Pierce	-20	1	20	Lost Steps	PASS
Z Pierce	-20	3	20	Lost Steps	PASS
R Lost Steps	-20	1	20	Lost Steps	PASS
Sample Cooler Test		-0.9277	-0.6	Deg C/Min	PASS
Test Pressure Transducer	0.45	0.46	0.55	PSI	PASS
BOS Pump Test					PASS
Methanol Prime					PASS
Sample Syringe Decay	-5	5.7	15	PSI	PASS
Dynamic Leak Test		-38	500	nL/min	PASS
Needlewash Prime					PASS
Test Preblank Injections		0	743.2	area	PASS

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Carryover		0.02235	0.04	ppm	PASS
Chemistry Precision Area	0	0.0779	0.5	%RSD	PASS
Chemistry Precision Height	0	0.4674	0.9	%RSD	PASS
Chemistry X-Intercept	-0.2	-0.0025	0.2	ul	PASS
Chemistry Linearity (R^2)	0.999	0.999992	1		PASS
Methanol Purge					PASS
Air Purge					PASS
Park Inject Valve					PASS
Home Needle					PASS
Save Serial Number					PASS

CPSM Final Test Overall Result - PASS

Signed: f wah

Date: 25 APR 18

END OF DATA