Agilent HPLC System Firmware Bulletin

Firmware Set 7.xx

1260 Infinity II LC System
1290 Infinity II LC System
1220 Infinity LC
1260 Infinity LC System
1260 Infinity SFC System
1290 Infinity LC System
1100/1200/1120 LC System
G7100 Capillary Electrophoresis

Agilent Technologies

Notices

Document Information

Document No: D0003246

Edition

Edition 3/20/2024

Printed in Germany

Agilent Technologies Hewlett-Packard-Strasse 8

76337 Waldbronn

Revision

This technical note is valid for the Agilent HPLC System Firmware Bulletin Firmware.

Warranty

Technology Licenses

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Contents

About this Document

This document provides the firmware changes in set 7.xx used for the following LC Systems

- 1220 Infinity LC
- 1260 Infinity LC Systems
- 1290 Infinity LC Systems
- 1260 Infinity II LC Systems
- 1290 Infinity II LC Systems
- 1200 Series LC
- G7100 Capillary Electrophoresis
- 1120 Compact LC
- 1100 Series LC

For information about other firmware sets refer to the Firmware Bulletin provided with the set.

Where To Get Latest Information

Visit the Agilent web

https://www.agilent.com/en-us/firmwareDownload?whid=69761

for

- Latest updates
- Firmware Sets / Firmware Bulletin
- Emulation information
- Firmware Update tools and
- Instructions

Document History

The table below lists all changes that have been made to this document.

Table 1 - Document History

Date	Description
Mar 20, 2024	Added Revision D.07.39 [020] for • Infinity II SFC Multisampler (G4767A)
Mar 20, 2024	Added Revision C.07.31 for • Infinity II MS Flow Modulator (G7170B)
Mar 04, 2024	Added Revision B.07.39 [020] for • Binary Pump (G4220A, G4220B, G7120A, G7132A BIO)
Mar 04, 2024	Added Revision C.07.32 [040] for • Infinity II Multicolumn Thermostat (MCT) (G7116A/G7116B) Added Revision C.07.23 [040] for • Infinity II Multicolumn Thermostat (MCT) (G7116A/G7116B) Backward compatible FW for FW x.07.2x decade
Mar 04, 2024	Added Revision • B.07.36 for Capillary Electrophoresis (G7100A)
Dec 06, 2023	Removed Revision D.07.39 for G4767A SFC Multisampler
Oct 26, 2023	Added Revision • B.07.39 for all modules with B-firmware (except G7100A) • D.07.39 for all modules with D-firmware • Added FW D.07.39 and new section for G3167B Infinity II Online Sample Manager (G3167A, G3167B)
Sep 05, 2023	Added Revision C.07.32 [020] for • Infinity II Multicolumn Thermostat (MCT) (G7116A/G7116B) Added Revision C.07.23 [020] for • Infinity II Multicolumn Thermostat (MCT) (G7116A/G7116B) Backward compatible FW for FW x.07.2x decade
Aug 02, 2023	Added Revision B.07.38 [020] for • Binary Pump (G4220A, G4220B, G7120A, G7132A BIO) • Infinity II Flexible Pump (G7104C, G7131A, G7131C) • Quaternary Pump (G4204A, G7104A)
May 12, 2023	Added Revision • B.07.38 for all modules with B-firmware (except G7100A) • D.07.38 for all modules with D-firmware • C.07.32 for Infinity II Multicolumn Thermostat (MCT) (G7116A/G7116B) • Added new section and FW D.07.38 for Infinity II Hybrid Multisampler (G7167C)
May 12, 2023	Added Revision C.07.23 for • Infinity II Multicolumn Thermostat (MCT) (G7116A/G7116B) Backward compatible FW for FW x.07.2x decade

May 12, 2023	Added Revision D.07.29 [050] Backward compatible FW for FW x.07.2x decade for • Infinity II Sampler (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS) • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC) • Infinity II Variable Wavelength Detector (VWD) (G7114A, G7114B) • Infinity II DAD / MWD (G7115A DAD, G7165A MWD) • Infinity II DAD (G7117A, G7117B, G7117C) • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A) • Infinity II Binary Pump (G7112B, G4782A SFC)
Dec 07, 2022	Added Revision • B.07.37 for all modules with B-firmware (except G7100A) • D.07.37 for all modules with D-firmware
Dec 07, 2022	Added Revision B.07.29 for • Infinity II Bin-Pump (G7120A) • Infinity II Quat-Pump (G7104A) • Infinity II Quat-Pump (G7104C) Backward compatible FW for FW x.07.2x decade
Aug 15, 2022	Added Revision D.07.36 for • Infinity II Vialsampler (G7129A) Added Revision C.07.31 for • Infinity II Multicolumn Thermostat (MCT) (G7116A/G7116B) Added Revision C.07.22 for • Infinity II Multicolumn Thermostat (MCT) (G7116A/G7116B) Backward compatible FW for FW x.07.2x decade Updates: • Minor Editorial changes
Mar 01, 2022	Added Revision D.07.36 for • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A) • Infinity II Binary Pump (G7112B, G4782A SFC)
Mar 01, 2022	Added Revision D.07.29 for • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A) • Infinity II Binary Pump (G7112B, G4782A SFC) Backward compatible FW for FW x.07.2x decade
Dec 13, 2021	General updates: • Update Title of the document from Firmware Set 7.01 to Firmware Set 7.xx • Update details on emulation mode • Update Copyright information and added document number
Dec 13, 2021	Added Revision • B.07.35 for all modules with B-firmware • D.07.35 for all modules with D-firmware
Dec 13, 2021	Added Revision • B.07.34 for Capillary Electrophoresis (G7100A)
July 14, 2021	Added Revision

	• Added FW D.07.34 and new section for G3167A Infinity II Online Sample Manager (G3167A)
June 22, 2021	Added Revision • B.07.34 for all modules with B-firmware (except G7100A) • D.07.34 for all modules with D-firmware • Added G7131A/C to section Infinity II Flexible Pump Infinity II Flexible Pump (G7104C, G7131A, G7131C)
Nov 26, 2020	Removed Revision B.07.33 for • 1120/1220 LC system
Nov 13, 2020	Added Revision • B.07.33 for all modules with B-firmware (except G7100A) • D.07.33 for all modules with D-firmware • Added G7132A to section Binary Pump Binary Pump (G4220A, G4220B, G7120A, G7132A BIO) • Added G7137A to section Infinity II Multisampler Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G7137A BIO, G4767A SFC)
Sept 30, 2020	Added Revision D.07.31 for • Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA) Added Revision D.07.29[003] for • Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA)
July 17, 2020	Added Revision D.07.31 for • Infinity II Preparative Open Bed Fraction Collector (G7159B) • Infinity II Preparative Open Bed Sampler/Collector (G7158B) Added Revision D.07.32 for • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC)
June 04, 2020	Added Revision • D.07.31 for Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC)
May 26, 2020	Added Revision • B.07.30 for all modules with B-firmware • D.07.30 for all modules with D-firmware • C.07.30 for all modules with C-firmware (Hosted Modules/CAN Slaves) • Added new section for G7170B Corrections: • Correction of module names (B.07.10 October 2016 (Tables showed names for VWD instead of DAD/MWD) – Typo only
Dec 18, 2019	Added Revision D.07.29 for • Infinity II Preparative Open Bed Fraction Collector (G7159B) • Infinity II Preparative Open Bed Sampler/Collector (G7158B)

	• Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA) Updates • Correct some formatting issues
Dec 06, 2019	Added Revision • B.07.28 for all modules with B-firmware (G7100 CE not included) • D.07.28 for all modules with D-firmware • Added new section for G7158B introduction Updates • Change fonts used in this document • Correction of FW file names for FW D.07.10 (Infinity II FLD G7121A, G7121B) • Correction of introduction date for FW B.07.26 (1120/1220 LC system)
Nov 13,2019	Added Revision • Add reference to the InfinityLab Companion (G7108AA) to the Local Controller
Jun 24, 2019	Added Revision • B.07.27 for all modules with B-firmware (G7100 CE not included) • D.07.27 for all modules with D-firmware Corrections: • Correction of some typo's
Mar 01, 2019	Added Revision • D.07.26 for Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA)
Jan 21, 2019	Added Revision • D.07.26 for Infinity II Preparative Pumps (G7161A, G7161B) • D.07.26 for Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC) • D.07.26 for Infinity II Variable Wavelength Detector (VWD) (G7114A, G7114B) Corrections: • Correct typo for referenced name of table 188: FW B.07.26 for 1220
Dec 03, 2018	Added Revision • D.07.26 for Infinity II Sampler (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS) • B.07.26 for 1120/1220 LC system
Oct 31, 2018	Added Revision • B.07.25 for all modules with B-firmware (G7100 CE not included) • D.07.25 for all modules with D-firmware Corrections: • Product family description for: G7129C 1260 Infinity II Vial sampler G7167A 1260 Multisampler

	• Introduction date for FW D.07.23 (G7114A, G7114B)
Oct 16, 2018	Corrected typo in the error description for C.07.21 for Infinity II Multicolumn Thermostat (MCT) (G7116A/B)
Sep 21, 2018	Added Revision • D.07.24 for Infinity II Preparative Pumps (G7161A, G7161B) • B.07.22 for Capillary Electrophoresis (G7100A) • C.07.21 for Infinity II Multicolumn Thermostat (MCT) (G7116A/B) Corrected typos, page breaks Added section • Infinity II Flexible Pump (G7104C)
May 18, 2018	Added Revision • D.07.24 for Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA) • A.07.01 for G2254A Automation Interface Added section • Automation Interface (G2254A)
Apr 26, 2018	Added Revision D.07.24 for • Infinity II Fraction Collector (G1364E, G1364F, G5664B)
Apr 12, 2018	Added Revision D.07.24 for • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A) (G7111A/B ONLY) • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC) (G4767A ONLY)
Feb 13, 2018	Added Revision • B.07.23 for all modules with B-firmware (G7100 CE not included) • D.07.23 for all modules with D-firmware. Added section • Infinity II Fraction Collector (G1364E, G1364F, G5664B)
Jan 11, 2018	Added Revision B.07.21 for • Binary Pump (G4220A, G4220B, G7120A) Added Revision D.07.22 for • Infinity II Sampler (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS) • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC)
Nov 9, 2017	Added Revision D.07.21 for • Infinity II Binary Prep Pump (G7161A) • Infinity II Sampler (G7129A VS, G7129B AS, G7129C VS) • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC) • Capillary Electrophoresis System (CE) (G7100)
Aug 29, 2017	Added Revision D.07.21 for • Infinity II Preparative Open Bed Fraction Collector (G7159B) • 1120/1220 LC system
Aug 29, 2017	Added Revision D.07.22 for • Infinity II Iso - / Quat-Pump (G7111A, G7111B, G5654A)
Aug 16, 2017	Corrected typos, page breaks
Aug 4, 2017	Changed document to new template, corrected typos
Jul 25, 2017	Added Revision D.07.21 for • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A)
Jun 23, 2017	Added Revision A.07.02 for • Thermostatted Column Compartment (TCC) (G1316A, G1316B, G1316C) Added Revision B.07.20 for

	• Quaternary Pump (G4204A, G7104A) • Binary Pump (G4220A, G4220B, G7120A) • Variable Wavelength Detector (VWD) (G1314D, G1314E, G1314F) • DAD/MWD (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD) • DAD (G4212A, G4212B) • LAN Interface Card (G1369C) • 1120/1220 LC system • Capillary Electrophoresis System (CE) (G7100) Added Revision D.07.20 for • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A) • Infinity II Binary Pump (G7112B, G4782A SFC) • Infinity II Sampler (G7129A VS, G7129B AS) • Infinity II Preparative Open Bed Fraction Collector (G7159B) • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC) • Infinity II Variable Wavelength Detector (VWD) (G7114A, G7114B) • DAD / MWD (G7115A DAD, G7165A MWD, G7117A DAD, G7117B DAD, G7117C DAD) • Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA) • Infinity II Refractive Index Detector (RID) (G7162A STD, G7162B MICRO) Added Revision C.07.20 (Hosted Modules/CAN Slaves) for • Infinity II Multicolumn Thermostat (MCT) (G7116A/B) • Infinity II Valve-based Fraction Collector (G7166A) • Valve Drive (G1170A) • Universal Interface Box II (UIB II) (G1390B) • Flexible Cube (G4227A)
Jun 21, 2017	Corrected text for Revision D.07.17 of • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC)
May 18, 2017	Added Revision D.07.12 for • Infinity II Variable Wavelength Detector (VWD) (G7114A, G7114B)
Apr 18, 2017	Added Revision D.07.16 for • Infinity II Binary Pump (G7112B, G4782A SFC) Added Revision D.07.14 for • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A)
Mar 30, 2017	Added Revision D.07.17 for • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC) Added Revision D.07.11 for • Infinity II Variable Wavelength Detector (VWD) (G7114A, G7114B)
Feb 27, 2017	Added Revision D.07.16 for • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC)
Feb 16, 2017	Added Revision A.07.02 for • SFC Controller (G4301A) • SFC Pump (G4302A) Added Revision D.07.13 for • Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA) Added Revision D.07.15 for • Infinity II Binary Pump (G7112B, G4782A SFC) • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC)
Jan 17, 2017	Added Revision A.07.02 for • Standard Autosampler (G1313A, G1329A, G1329B, G1389A, G2260A, G4303A SFC) • High Performance Autosampler (G1367A/E, G1377A, G2258A, G4226A, G5667A) • Fraction Collector (G1364A, G164B, G1364C, G1364D, G5664A)

	• SFC Autosampler (G4303A) Added Revision D.07.13 for • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A) Added Revision D.07.15 for • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC)
Dec 23, 2016	Correction of Revision to "D" • Modules with on-board LAN ("B" and "D" firmware)
Dec 22, 2016	Added Revision 7.12 for • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A) • Infinity II Sampler (G7129A VS, G7129B AS) • Infinity II Preparative Open Bed Fraction Collector (G7159B) • DAD / MWD (G7115A DAD, G7165A MWD, G7117A DAD, G7117B DAD, G7117C DAD) (G7115A/65A only) • Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA) • 1120/1220 LC system
Nov 10, 2016	Added Revision 7.11 for • Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA)
Oct 21, 2016	Added Revision 7.11 • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A)
Oct 18, 2016	Added Revision 7.10 for • 1120/1220 LC system
Oct 13, 2016	Added Revision 7.02 for some A-firmware modules • Variable Wavelength Detector (VWD) (G1314A, G1314B, G1314C) • DAD/MWD (G1315A DAD, G1315B DAD, G1365A MWD, G1365B MWD) • Fluorescence Detector (FLD) (G1321A SPECTRA, G1321B SPECTRA, G1321C FLD) • Refractive Index Detector (RID) (G1362A) Added Revision 7.10 for all B/C/D firmware (not for 1120/1220!)
Aug 30, 2016	Added Revision 7.02 for • Infinity II Sampler (G7129A VS, G7129B AS)
Jul 19, 2016	Added Revision 7.01 for • Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA)
Jun 22, 2016	Added Revision 7.02 for • Infinity II Variable Wavelength Detector (VWD) (G7114A, G7114B)
May 18, 2016	Added Revision D.7.02 for • Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A) • Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC) • Capillary Electrophoresis System (CE) (G7100A)
May 6, 2016	Updated Core Changes Modules with "C" firmware
May 4, 2016	Release of firmware A/B/C/D.07.01 for ALL modules All change information mentioned in this release are based on the last revision from set 6.50!

General Firmware Information

Firmware A

This firmware was introduced with the 1100 series LC modules in 1995. These can be identified by

- No LAN connection
- GPIB connector (not with 1260 modules and later)
- RS-232 connector
- 9-pin APG remote connector
- Interface slot for LAN card (not on G1316A/B/C TCC)

Firmware B

This firmware was introduced with the 1200 series LC modules with new electronic platform starting 2005. These can be identified by

- LAN onboard (instead of Interface slot)
- No GPIB

These modules can work as host for hosted (CAN slave) modules with C-firmware.

Firmware C

This firmware is used in hosted (CAN slave) modules. To operate them, these require a host module with (B- or D-firmware).

- G7116A/B Multicolumn Thermostat (1290 Infinity II)
- G4227A Flexible Cube (1290)
- G1170A Valve Drive (1290)
- G1390B Universal Interface Box II (1260/1290)
- G7166A Valve Based Fraction Collector
- G7170B MS Flow Modulator

Firmware D

D-Firmware is for new Infinity II platform modules introduced August 2014. These can be identified by

- product numbers G71XX and
- 15 pin enhanced remote interface (instead of 9-pin APG remote) and
- mini-USB connection (instead of RS-232)
- Main boards with FUSION core piggyback board and

These modules can work as host for hosted (CAN slave) modules with C-firmware.

NOTE Existing 1100/1200/1260/1290 modules with A/B/C/D firmware must be upgraded to latest firmware (main/resident) from set 7.01 when used with the 1260 Infinity II modules.

Main/Resident Firmware

The module firmware consists of two parts

- Main firmware – for the operation of the module and resident firmware update
- Resident firmware – for boot (if the main is not starting) and main firmware update

NOTE Main and resident firmware revision should be from the same firmware set.

For details see Agilent web for ***LC firmware***! See Where To Get Latest Information.

Firmware for New RFID Tag

New RFID tag assemblies were introduced later in November 2016 on various modules:

- VWD (G1314D, G1314E, G1314F),
- DAD, MWD (G1315C, G1365C, G1315D, G1365D), Infinity DAD (G4212A, G4212B),
- Infinity Binary Pump (G4220A, G4220B),
- TCC (G1316C),
- Universal Valve (G1170A),
- FlexCube (G4227A),
- CE (G7100A)

To support old and new RFID tags compatible firmware is required:

- G1316C TCC with A.06.55 or later,
- B-firmware since release B.06.73 or later.
- C-firmware for G1170A Universal Valve or G4227A Flexible Cube since release C.06.72 or later.
- D-firmware since release D.06.70 or later.

For details see Agilent web for ***RFID Tag Information - Important for all users***! See Where To Get Latest Information.

Compatibility Information

This chapter provides information about compatibility.

The information is related to firmware described in this firmware set.

NOTE This set includes just the latest firmware of each module. It's fully compatible with your CDS that supports this firmware set.

Agilent LC Firmware Set Interoperability and Support Statement

- Agilent releases LC firmware updates as so-called “firmware sets”.
- All Agilent LC instrument firmware sets have been designed and tested to be truly and strictly backward compatible to the installed software base (CDS).
- The module firmware contained in each set is fully compatible and interoperable with all other module firmware of the same set.
- Agilent recommends using always the latest module firmware revision of a firmware set to avoid interoperability issues.
- Generally, Agilent recommends keeping the LC instrument firmware always current.
- Do not mix firmware revisions between different sets. Agilent does not guarantee mixed firmware revisions from older or newer sets.
- If you must document the firmware revision (for validation reasons) please use the term “Revision XXX or later” or “Firmware from Set XX or later”. This might help on discussions in case of required updates due to malfunctions that have been corrected in later releases.

Notes for Agilent LC instruments controlled by non-Agilent Chromatography Data Systems (CDS)

- The 3rd-party CDS software vendor is responsible for compatibility testing with the respective CDS revision.
- The 3rd-party CDS software vendor defines the minimum firmware revision required for CDS compatibility.
- The 3rd-party CDS release notes issued by the respective CDS vendor may use different terminology for the firmware requirements such as “tested firmware”, “supported firmware”, “firmware requirements”, “minimum tested firmware”, etc.
- An Agilent LC instrument running a current firmware set is fully supported as long as it meets or exceeds the minimum firmware requirements specified by the 3rd-party CDS software vendor and meets Agilent's firmware set/firmware interoperability requirements.

Examples

NOTE If a new feature has been added in a newer revision, an appropriate CDS revision that supports the new feature might be required. Otherwise it is just not visible/used.

This means

- A later revision than the initial firmware in this set is fully backward compatible and does not require re-validation of the system, unless it is mentioned under the specific change information, see Agilent LC Firmware Set Interoperability and Support Statement and OQ/PV - Validation Information.
- A CDS tested with the initial revision will also work with the later revisions. This is normally also true for non-Agilent control software (3rd party CDS), see Notes for Agilent LC instruments controlled by non-Agilent Chromatography Data Systems (CDS).
- Use firmware from a single set only.
- Use the latest firmware revision if possible.
- Upgrade all modules to latest revision when
    - a (new) module is added to the system or
    - receives a new main board or

    - a module is updated due to solving a problem.
- References in validation documents should not be done to specific revisions. Use (if possible) the term “Set X.XX or later”.

NOTE Do not mix firmware revisions from this set with older or newer sets. This firmware is not tested across set borders.

This means

- Use of firmware from different sets may cause unpredictable problems.

NOTE A.06.xx / B.0x.xx firmware does not talk to old 1100 firmware revisions A.05.xx and below.

This means

- Adding a new 1260/1290 module to an existing 1100 system will not show the new module in the CDS.
- Depending on the interfacing either only the old or new or no module(s) are shown in the CDS.
- You should upgrade either the old module(s) to new firmware or downgrade the new module to old firmware (while the other side is disconnected via CAN).

OQ/PV - Validation Information

If a firmware upgrade has been performed, normally no re-validation of the module/system is required.

NOTE Whether a module/system re-validation is required or not is defined on the customer’s requirements.

Firmware Revision Change Information

This chapter provides the details of the various firmware revisions for the Agilent HPLC Systems/Modules. The initial changes (7.01) listed in this chapter are the changes based on the last revisions of set 6.50.

Resident Firmware

The resident firmware depends on the target module.

Table 2 - Resident Firmware

Module	Product#	Filename (.DLB)
with LAN on-board “D”	Note 2	Res_D739_003
with LAN on-board “D”	Note 2	Res_D738_001
with LAN on-board “D”	Note 2	Res_D737_002
with LAN on-board “D”	Note 2	Res_D735_002
with LAN on-board “D”	Note 2	Res_D734_006
with LAN on-board “D”	Note 2	Res_D733_003
with LAN on-board “D”	Note 2	Res_D730_005
with LAN on-board “D”	Note 2	Res_D728_006
with LAN on-board “D”	Note 2	Res_D727_006
with LAN on-board “D”	Note 2	Res_D725_006
with LAN on-board “D”	Note 2	Res_D723_009
with LAN on-board “D”	Note 2	Res_D720_002
with LAN on-board “D”	Note 2	Res_D710_002
with LAN on-board “D”	Note 2	Res_D701_001
for CAN slaves that requires host module “C”	Note 1	Res_C732_002
for CAN slaves that requires host module “C”	Note 1	Res_C730_001
for CAN slaves that requires host module “C”	Note 1	Res_C720_002
for CAN slaves that requires host module “C”	Note 1	Res_C710_001
for CAN slaves that requires host module “C”	Note 1	Res_C701_001
with LAN on-board “B”	all	Res_B739_003
with LAN on-board “B”	all	Res_B738_001
with LAN on-board “B”	all	Res_B737_002
with LAN on-board “B”	all	Res_B735_002
with LAN on-board “B”	all	Res_B734_006
with LAN on-board “B”	all	Res_B733_003
with LAN on-board “B”	all	Res_B730_005
with LAN on-board “B”	all	Res_B728_006
with LAN on-board “B”	all	Res_B727_006
with LAN on-board “B”	all	Res_B725_006
with LAN on-board “B”	all	Res_B723_009
with LAN on-board “B”	all	Res_B720_002
with LAN on-board “B”	all	Res_B710_002
with LAN on-board “B”	all	Res_B701_001
without LAN on-board “A”	all	Res_A701_001
LAN Interface Card	G1369C	Res_1369C_B739_003
LAN Interface Card	G1369C	Res_1369C_B738_001
LAN Interface Card	G1369C	Res_1369C_B737_002
LAN Interface Card	G1369C	Res_1369C_B735_002

LAN Interface Card	G1369C	Res_1369C_B734_006
LAN Interface Card	G1369C	Res_1369C_B733_003
LAN Interface Card	G1369C	Res_1369C_B730_005
LAN Interface Card	G1369C	Res_1369C_B728_006
LAN Interface Card	G1369C	Res_1369C_B727_006
LAN Interface Card	G1369C	Res_1369C_B725_006
LAN Interface Card	G1369C	Res_1369C_B723_009
LAN Interface Card	G1369C	Res_1369C_B720_002
LAN Interface Card	G1369C	Res_1369C_B710_002
LAN Interface Card	G1369C	Res_1369C_B701_001

Notes:

1. Used for 'HOSTED' modules

    - G7116A/B Multicolumn Thermostat (1290 Infinity II)
    - G4227A Flexible Cube (1290)
    - G1170A Valve Drive (1290)
    - G1390B Universal Interface Box II (1260/1290)
    - G7166A Valve Based Fraction Collector
    - G7170B MS Flow Modulator

    Resident version must be the same as main version and same as on host module.

2. New models introduced since August 2014 use a new electronic platform that run with "D" firmware (main and resident). See next pages for module list.

1120 Compact LC / 1220 Infinity LC

NOTE Firmware updates can be done with the Agilent Lab Advisor software ONLY! See Agilent web for ***Firmware Update Tools & Procedures***! See Where To Get Latest Information.

Table 3 - 1120 Compact LC / 1220 Infinity LC

Module	Product#	Filename (.DLB)
1120 Compact LC	G4286A	4286A_B739_003
1120 Compact LC	G4286A	4286A_B738_001
1120 Compact LC	G4286A	4286A_B737_002
1120 Compact LC	G4286A	4286A_B735_002
1120 Compact LC	G4286A	4286A_B734_006
~~1120 Compact LC~~	~~G4286A~~	~~4286A_B733_003~~
1120 Compact LC	G4286A	4286A_B730_005
1120 Compact LC	G4286A	4286A_B728_006
1120 Compact LC	G4286A	4286A_B727_006
1120 Compact LC	G4286A	4286A_B726_001
1120 Compact LC	G4286A	4286A_B725_013
1120 Compact LC	G4286A	4286A_B723_009
1120 Compact LC	G4286A	4286A_B721_001
1120 Compact LC	G4286A	4286A_B720_007
1120 Compact LC	G4286A	4286A_B712_002
1120 Compact LC	G4286A	4286A_B710_004
1120 Compact LC	G4286A	4286A_B701_005
1220 Infinity LC	G4286B	4286B_B739_003
1220 Infinity LC	G4286B	4286B_B738_001
1220 Infinity LC	G4286B	4286B_B737_002
1220 Infinity LC	G4286B	4286B_B735_002
1220 Infinity LC	G4286B	4286B_B734_006
~~1220 Infinity LC~~	~~G4286B~~	~~4286B_B733_003~~
1220 Infinity LC	G4286B	4286B_B730_005
1220 Infinity LC	G4286B	4286B_B728_006
1220 Infinity LC	G4286B	4286B_B727_006
1220 Infinity LC	G4286B	4286B_B726_001
1220 Infinity LC	G4286B	4286B_B725_013
1220 Infinity LC	G4286B	4286B_B723_009
1220 Infinity LC	G4286B	4286B_B721_001
1220 Infinity LC	G4286B	4286B_B720_007
1220 Infinity LC	G4286B	4286B_B712_002
1220 Infinity LC	G4286B	4286B_B710_004
1220 Infinity LC	G4286B	4286B_B701_005
1220 Infinity LC VL	G4286C	4286C_B739_003
1220 Infinity LC VL	G4286C	4286C_B738_001
1220 Infinity LC VL	G4286C	4286C_B737_002
1220 Infinity LC VL	G4286C	4286C_B735_002
1220 Infinity LC VL	G4286C	4286C_B734_006
~~1220 Infinity LC VL~~	~~G4286C~~	~~4286C_B733_003~~
1220 Infinity LC VL	G4286C	4286C_B730_005
1220 Infinity LC VL	G4286C	4286C_B728_006
1220 Infinity LC VL	G4286C	4286C_B727_006
1220 Infinity LC VL	G4286C	4286C_B726_001
1220 Infinity LC VL	G4286C	4286C_B725_013
1220 Infinity LC VL	G4286C	4286C_B723_009
1220 Infinity LC VL	G4286C	4286C_B721_001

1220 Infinity LC VL	G4286C	4286C_B720_007
1220 Infinity LC VL	G4286C	4286C_B712_002
1220 Infinity LC VL	G4286C	4286C_B710_004
1220 Infinity LC VL	G4286C	4286C_B701_005
1120 Compact LC	G4287A	4287A_B739_003
1120 Compact LC	G4287A	4287A_B738_001
1120 Compact LC	G4287A	4287A_B737_002
1120 Compact LC	G4287A	4287A_B735_002
1120 Compact LC	G4287A	4287A_B734_006
~~1120 Compact LC~~	~~G4287A~~	~~4287A_B733_003~~
1120 Compact LC	G4287A	4287A_B730_005
1120 Compact LC	G4287A	4287A_B728_006
1120 Compact LC	G4287A	4287A_B727_006
1120 Compact LC	G4287A	4287A_B726_001
1120 Compact LC	G4287A	4287A_B725_013
1120 Compact LC	G4287A	4287A_B723_009
1120 Compact LC	G4287A	4287A_B721_001
1120 Compact LC	G4287A	4287A_B720_007
1120 Compact LC	G4287A	4287A_B712_002
1120 Compact LC	G4287A	4287A_B710_004
1120 Compact LC	G4287A	4287A_B701_005
1220 Infinity LC	G4287B	4287B_B739_003
1220 Infinity LC	G4287B	4287B_B738_001
1220 Infinity LC	G4287B	4287B_B737_002
1220 Infinity LC	G4287B	4287B_B735_002
1220 Infinity LC	G4287B	4287B_B734_006
~~1220 Infinity LC~~	~~G4287B~~	~~4287B_B733_003~~
1220 Infinity LC	G4287B	4287B_B730_005
1220 Infinity LC	G4287B	4287B_B728_006
1220 Infinity LC	G4287B	4287B_B727_006
1220 Infinity LC	G4287B	4287B_B726_001
1220 Infinity LC	G4287B	4287B_B725_013
1220 Infinity LC	G4287B	4287B_B723_009
1220 Infinity LC	G4287B	4287B_B721_001
1220 Infinity LC	G4287B	4287B_B720_007
1220 Infinity LC	G4287B	4287B_B712_002
1220 Infinity LC	G4287B	4287B_B710_004
1220 Infinity LC	G4287B	4287B_B701_005
1120 Compact LC	G4288A	4288A_B739_003
1120 Compact LC	G4288A	4288A_B738_001
1120 Compact LC	G4288A	4288A_B737_002
1120 Compact LC	G4288A	4288A_B735_002
1120 Compact LC	G4288A	4288A_B734_006
~~1120 Compact LC~~	~~G4288A~~	~~4288A_B733_003~~
1120 Compact LC	G4288A	4288A_B730_005
1120 Compact LC	G4288A	4288A_B728_006
1120 Compact LC	G4288A	4288A_B727_006
1120 Compact LC	G4288A	4288A_B726_001
1120 Compact LC	G4288A	4288A_B725_013
1120 Compact LC	G4288A	4288A_B723_009
1120 Compact LC	G4288A	4288A_B721_001
1120 Compact LC	G4288A	4288A_B720_007
1120 Compact LC	G4288A	4288A_B712_002
1120 Compact LC	G4288A	4288A_B710_004
1120 Compact LC	G4288A	4288A_B701_005

1220 Infinity LC	G4288B	4288B_B739_003
1220 Infinity LC	G4288B	4288B_B738_001
1220 Infinity LC	G4288B	4288B_B737_002
1220 Infinity LC	G4288B	4288B_B735_002
1220 Infinity LC	G4288B	4288B_B734_006
~~1220 Infinity LC~~	~~G4288B~~	~~4288B_B733_003~~
1220 Infinity LC	G4288B	4288B_B730_005
1220 Infinity LC	G4288B	4288B_B728_006
1220 Infinity LC	G4288B	4288B_B727_006
1220 Infinity LC	G4288B	4288B_B726_001
1220 Infinity LC	G4288B	4288B_B725_013
1220 Infinity LC	G4288B	4288B_B723_009
1220 Infinity LC	G4288B	4288B_B721_001
1220 Infinity LC	G4288B	4288B_B720_007
1220 Infinity LC	G4288B	4288B_B712_002
1220 Infinity LC	G4288B	4288B_B710_004
1220 Infinity LC	G4288B	4288B_B701_005
1220 Infinity LC VL	G4288C	4288C_B739_003
1220 Infinity LC VL	G4288C	4288C_B738_001
1220 Infinity LC VL	G4288C	4288C_B737_002
1220 Infinity LC VL	G4288C	4288C_B735_002
1220 Infinity LC VL	G4288C	4288C_B734_006
~~1220 Infinity LC VL~~	~~G4288C~~	~~4288C_B733_003~~
1220 Infinity LC VL	G4288C	4288C_B730_005
1220 Infinity LC VL	G4288C	4288C_B728_006
1220 Infinity LC VL	G4288C	4288C_B727_006
1220 Infinity LC VL	G4288C	4288C_B726_001
1220 Infinity LC VL	G4288C	4288C_B725_013
1220 Infinity LC VL	G4288C	4288C_B723_009
1220 Infinity LC VL	G4288C	4288C_B721_001
1220 Infinity LC VL	G4288C	4288C_B720_007
1220 Infinity LC VL	G4288C	4288C_B712_002
1220 Infinity LC VL	G4288C	4288C_B710_004
1220 Infinity LC VL	G4288C	4288C_B701_005
1120 Compact LC	G4289A	4289A_B739_003
1120 Compact LC	G4289A	4289A_B738_001
1120 Compact LC	G4289A	4289A_B737_002
1120 Compact LC	G4289A	4289A_B735_002
1120 Compact LC	G4289A	4289A_B734_006
~~1120 Compact LC~~	~~G4289A~~	~~4289A_B733_003~~
1120 Compact LC	G4289A	4289A_B730_005
1120 Compact LC	G4289A	4289A_B728_006
1120 Compact LC	G4289A	4289A_B727_006
1120 Compact LC	G4289A	4289A_B726_001
1120 Compact LC	G4289A	4289A_B725_013
1120 Compact LC	G4289A	4289A_B723_009
1120 Compact LC	G4289A	4289A_B721_001
1120 Compact LC	G4289A	4289A_B720_007
1120 Compact LC	G4289A	4289A_B712_002
1120 Compact LC	G4289A	4289A_B710_004
1120 Compact LC	G4289A	4289A_B701_005
1220 Infinity LC	G4289B	4289B_B739_003
1220 Infinity LC	G4289B	4289B_B738_001
1220 Infinity LC	G4289B	4289B_B737_002
1220 Infinity LC	G4289B	4289B_B735_002

1220 Infinity LC	G4289B	4289B_B734_006
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1220 Infinity LC	G4289B	4289B_B730_005
1220 Infinity LC	G4289B	4289B_B728_006
1220 Infinity LC	G4289B	4289B_B727_006
1220 Infinity LC	G4289B	4289B_B726_001
1220 Infinity LC	G4289B	4289B_B725_013
1220 Infinity LC	G4289B	4289B_B723_009
1220 Infinity LC	G4289B	4289B_B721_001
1220 Infinity LC	G4289B	4289B_B720_007
1220 Infinity LC	G4289B	4289B_B712_002
1220 Infinity LC	G4289B	4289B_B710_004
1220 Infinity LC VL	G4289C	4289C_B739_003
1220 Infinity LC VL	G4289C	4289C_B738_001
1220 Infinity LC VL	G4289C	4289C_B737_002
1220 Infinity LC VL	G4289C	4289C_B735_002
1220 Infinity LC VL	G4289C	4289C_B734_006
~~1220 Infinity LC VL~~	~~G4289C~~	~~4289C_B733_003~~
1220 Infinity LC VL	G4289C	4289C_B730_005
1220 Infinity LC VL	G4289C	4289C_B728_006
1220 Infinity LC VL	G4289C	4289C_B727_006
1220 Infinity LC VL	G4289C	4289C_B726_001
1220 Infinity LC VL	G4289C	4289C_B725_013
1220 Infinity LC VL	G4289C	4289C_B710_004
1220 Infinity LC VL	G4289C	4289C_B701_005
1120 Compact LC	G4290A	4290A_B739_003
1120 Compact LC	G4290A	4290A_B738_001
1120 Compact LC	G4290A	4290A_B737_002
1120 Compact LC	G4290A	4290A_B735_002
1120 Compact LC	G4290A	4290A_B734_006
~~1120 Compact LC~~	~~G4290A~~	~~4290A_B733_003~~
1120 Compact LC	G4290A	4290A_B730_005
1120 Compact LC	G4290A	4290A_B728_006
1120 Compact LC	G4290A	4290A_B727_006
1120 Compact LC	G4290A	4290A_B726_001
1120 Compact LC	G4290A	4290A_B725_013
1120 Compact LC	G4290A	4290A_B723_009
1120 Compact LC	G4290A	4290A_B721_001
1120 Compact LC	G4290A	4290A_B720_007
1120 Compact LC	G4290A	4290A_B712_002
1120 Compact LC	G4290A	4290A_B710_004
1120 Compact LC	G4290A	4290A_B701_005
1220 Infinity LC	G4290B	4290B_B739_003
1220 Infinity LC	G4290B	4290B_B738_001
1220 Infinity LC	G4290B	4290B_B737_002
1220 Infinity LC	G4290B	4290B_B735_002
1220 Infinity LC	G4290B	4290B_B734_006
~~1220 Infinity LC~~	~~G4290B~~	~~4290B_B733_003~~
1220 Infinity LC	G4290B	4290B_B730_005
1220 Infinity LC	G4290B	4290B_B728_006
1220 Infinity LC	G4290B	4290B_B727_006
1220 Infinity LC	G4290B	4290B_B726_001
1220 Infinity LC	G4290B	4290B_B725_013
1220 Infinity LC	G4290B	4290B_B723_009
1220 Infinity LC	G4290B	4290B_B721_001

1220 Infinity LC	G4290B	4290B_B720_007
1220 Infinity LC	G4290B	4290B_B712_002
1220 Infinity LC	G4290B	4290B_B710_004
1220 Infinity LC	G4290B	4290B_B701_005
1220 Infinity LC VL	G4290C	4290C_B739_003
1220 Infinity LC VL	G4290C	4290C_B738_001
1220 Infinity LC VL	G4290C	4290C_B737_002
1220 Infinity LC VL	G4290C	4290C_B735_002
1220 Infinity LC VL	G4290C	4290C_B734_006
~~1220 Infinity LC VL~~	~~G4290C~~	~~4290C_B733_003~~
1220 Infinity LC VL	G4290C	4290C_B730_005
1220 Infinity LC VL	G4290C	4290C_B728_006
1220 Infinity LC VL	G4290C	4290C_B727_006
1220 Infinity LC VL	G4290C	4290C_B726_001
1220 Infinity LC VL	G4290C	4290C_B725_013
1220 Infinity LC VL	G4290C	4290C_B723_009
1220 Infinity LC VL	G4290C	4290C_B721_001
1220 Infinity LC VL	G4290C	4290C_B720_007
1220 Infinity LC VL	G4290C	4290C_B712_002
1220 Infinity LC VL	G4290C	4290C_B710_004
1220 Infinity LC VL	G4290C	4290C_B701_005
1120 Compact LC	G4291A	4291A_B739_003
1120 Compact LC	G4291A	4291A_B738_001
1120 Compact LC	G4291A	4291A_B737_002
1120 Compact LC	G4291A	4291A_B735_002
1120 Compact LC	G4291A	4291A_B734_006
~~1120 Compact LC~~	~~G4291A~~	~~4291A_B733_003~~
1120 Compact LC	G4291A	4291A_B730_005
1120 Compact LC	G4291A	4291A_B728_006
1120 Compact LC	G4291A	4291A_B727_006
1120 Compact LC	G4291A	4291A_B726_001
1120 Compact LC	G4291A	4291A_B725_013
1120 Compact LC	G4291A	4291A_B723_009
1120 Compact LC	G4291A	4291A_B721_001
1120 Compact LC	G4291A	4291A_B720_007
1120 Compact LC	G4291A	4291A_B712_002
1120 Compact LC	G4291A	4291A_B710_004
1120 Compact LC	G4291A	4291A_B701_005
1220 Infinity LC	G4291B	4291B_B739_003
1220 Infinity LC	G4291B	4291B_B738_001
1220 Infinity LC	G4291B	4291B_B737_002
1220 Infinity LC	G4291B	4291B_B735_002
1220 Infinity LC	G4291B	4291B_B734_006
~~1220 Infinity LC~~	~~G4291B~~	~~4291B_B733_003~~
1220 Infinity LC	G4291B	4291B_B730_005
1220 Infinity LC	G4291B	4291B_B728_006
1220 Infinity LC	G4291B	4291B_B727_006
1220 Infinity LC	G4291B	4291B_B726_001
1220 Infinity LC	G4291B	4291B_B725_013
1220 Infinity LC	G4291B	4291B_B723_009
1220 Infinity LC	G4291B	4291B_B721_001
1220 Infinity LC	G4291B	4291B_B720_007
1220 Infinity LC	G4291B	4291B_B712_002
1220 Infinity LC	G4291B	4291B_B710_004
1220 Infinity LC	G4291B	4291B_B701_005

1220 Infinity LC VL	G4291C	4291C_B739_003
1220 Infinity LC VL	G4291C	4291C_B738_001
1220 Infinity LC VL	G4291C	4291C_B737_002
1220 Infinity LC VL	G4291C	4291C_B735_002
1220 Infinity LC VL	G4291C	4291C_B734_006
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1220 Infinity LC VL	G4291C	4291C_B730_005
1220 Infinity LC VL	G4291C	4291C_B728_006
1220 Infinity LC VL	G4291C	4291C_B727_006
1220 Infinity LC VL	G4291C	4291C_B726_001
1220 Infinity LC VL	G4291C	4291C_B725_013
1220 Infinity LC VL	G4291C	4291C_B723_009
1220 Infinity LC VL	G4291C	4291C_B721_001
1220 Infinity LC VL	G4291C	4291C_B720_007
1220 Infinity LC VL	G4291C	4291C_B712_002
1220 Infinity LC VL	G4291C	4291C_B710_004
1220 Infinity LC VL	G4291C	4291C_B701_005
1120 Compact LC	G4292A	4292A_B739_003
1120 Compact LC	G4292A	4292A_B738_001
1120 Compact LC	G4292A	4292A_B737_002
1120 Compact LC	G4292A	4292A_B735_002
1120 Compact LC	G4292A	4292A_B734_006
~~1120 Compact LC~~	~~G4292A~~	~~4292A_B733_003~~
1120 Compact LC	G4292A	4292A_B730_005
1120 Compact LC	G4292A	4292A_B728_006
1120 Compact LC	G4292A	4292A_B727_006
1120 Compact LC	G4292A	4292A_B726_001
1120 Compact LC	G4292A	4292A_B725_013
1120 Compact LC	G4292A	4292A_B723_009
1120 Compact LC	G4292A	4292A_B721_001
1120 Compact LC	G4292A	4292A_B720_007
1120 Compact LC	G4292A	4292A_B712_002
1120 Compact LC	G4292A	4292A_B710_004
1120 Compact LC	G4292A	4292A_B701_005
1220 Infinity LC	G4292B	4292B_B739_003
1220 Infinity LC	G4292B	4292B_B738_001
1220 Infinity LC	G4292B	4292B_B737_002
1220 Infinity LC	G4292B	4292B_B735_002
1220 Infinity LC	G4292B	4292B_B734_006
~~1220 Infinity LC~~	~~G4292B~~	~~4292B_B733_003~~
1220 Infinity LC	G4292B	4292B_B730_005
1220 Infinity LC	G4292B	4292B_B728_006
1220 Infinity LC	G4292B	4292B_B727_006
1220 Infinity LC	G4292B	4292B_B726_001
1220 Infinity LC	G4292B	4292B_B725_013
1220 Infinity LC	G4292B	4292B_B723_009
1220 Infinity LC	G4292B	4292B_B721_001
1220 Infinity LC	G4292B	4292B_B720_007
1220 Infinity LC	G4292B	4292B_B712_002
1220 Infinity LC	G4292B	4292B_B710_004
1220 Infinity LC	G4292B	4292B_B701_005
1220 Infinity LC VL	G4292C	4292C_B739_003
1220 Infinity LC VL	G4292C	4292C_B738_001
1220 Infinity LC VL	G4292C	4292C_B737_002
1220 Infinity LC VL	G4292C	4292C_B735_002

1220 Infinity LC VL	G4292C	4292C_B734_006
~~1220 Infinity LC VL~~	~~G4292C~~	~~4292C_B733_003~~
1220 Infinity LC VL	G4292C	4292C_B730_005
1220 Infinity LC VL	G4292C	4292C_B728_006
1220 Infinity LC VL	G4292C	4292C_B727_006
1220 Infinity LC VL	G4292C	4292C_B726_001
1220 Infinity LC VL	G4292C	4292C_B725_013
1220 Infinity LC VL	G4292C	4292C_B723_009
1220 Infinity LC VL	G4292C	4292C_B721_001
1220 Infinity LC VL	G4292C	4292C_B720_007
1220 Infinity LC VL	G4292C	4292C_B712_002
1220 Infinity LC VL	G4292C	4292C_B710_004
1220 Infinity LC VL	G4292C	4292C_B701_005
1120 Compact LC	G4293A	4293A_B739_003
1120 Compact LC	G4293A	4293A_B738_001
1120 Compact LC	G4293A	4293A_B737_002
1120 Compact LC	G4293A	4293A_B735_002
1120 Compact LC	G4293A	4293A_B734_006
~~1120 Compact LC~~	~~G4293A~~	~~4293A_B733_003~~
1120 Compact LC	G4293A	4293A_B730_005
1120 Compact LC	G4293A	4293A_B728_006
1120 Compact LC	G4293A	4293A_B727_006
1120 Compact LC	G4293A	4293A_B726_001
1120 Compact LC	G4293A	4293A_B725_013
1120 Compact LC	G4293A	4293A_B723_009
1120 Compact LC	G4293A	4293A_B721_001
1120 Compact LC	G4293A	4293A_B720_007
1120 Compact LC	G4293A	4293A_B712_002
1120 Compact LC	G4293A	4293A_B710_004
1120 Compact LC	G4293A	4293A_B701_005
1220 Infinity LC	G4293B	4293B_B739_003
1220 Infinity LC	G4293B	4293B_B738_001
1220 Infinity LC	G4293B	4293B_B737_002
1220 Infinity LC	G4293B	4293B_B735_002
1220 Infinity LC	G4293B	4293B_B734_006
~~1220 Infinity LC~~	~~G4293B~~	~~4293B_B733_003~~
1220 Infinity LC	G4293B	4293B_B730_005
1220 Infinity LC	G4293B	4293B_B728_006
1220 Infinity LC	G4293B	4293B_B727_006
1220 Infinity LC	G4293B	4293B_B726_001
1220 Infinity LC	G4293B	4293B_B725_013
1220 Infinity LC	G4293B	4293B_B723_009
1220 Infinity LC	G4293B	4293B_B721_001
1220 Infinity LC	G4293B	4293B_B720_007
1220 Infinity LC	G4293B	4293B_B712_002
1220 Infinity LC	G4293B	4293B_B710_004
1220 Infinity LC	G4293B	4293B_B701_005
1220 Infinity LC VL	G4293C	4293C_B739_003
1220 Infinity LC VL	G4293C	4293C_B738_001
1220 Infinity LC VL	G4293C	4293C_B737_002
1220 Infinity LC VL	G4293C	4293C_B735_002
1220 Infinity LC VL	G4293C	4293C_B734_006
~~1220 Infinity LC VL~~	~~G4293C~~	~~4293C_B733_003~~
1220 Infinity LC VL	G4293C	4293C_B730_005
1220 Infinity LC VL	G4293C	4293C_B728_006

1220 Infinity LC VL	G4293C	4293C_B727_006
1220 Infinity LC VL	G4293C	4293C_B726_001
1220 Infinity LC VL	G4293C	4293C_B725_013
1220 Infinity LC VL	G4293C	4293C_B723_009
1220 Infinity LC VL	G4293C	4293C_B721_001
1220 Infinity LC VL	G4293C	4293C_B720_007
1220 Infinity LC VL	G4293C	4293C_B712_002
1220 Infinity LC VL	G4293C	4293C_B710_004
1220 Infinity LC VL	G4293C	4293C_B701_005
1220 Infinity LC VL	G4294B	4294B_B739_003
1220 Infinity LC VL	G4294B	4294B_B738_001
1220 Infinity LC VL	G4294B	4294B_B737_002
1220 Infinity LC VL	G4294B	4294B_B735_002
1220 Infinity LC VL	G4294B	4294B_B734_006
~~1220 Infinity LC VL~~	~~G4294B~~	~~4294B_B733_003~~
1220 Infinity LC VL	G4294B	4294B_B730_005
1220 Infinity LC VL	G4294B	4294B_B728_006
1220 Infinity LC VL	G4294B	4294B_B727_006
1220 Infinity LC VL	G4294B	4294B_B726_001
1220 Infinity LC VL	G4294B	4294B_B725_013
1220 Infinity LC VL	G4294B	4294B_B723_009
1220 Infinity LC VL	G4294B	4294B_B721_001
1220 Infinity LC VL	G4294B	4294B_B720_007
1220 Infinity LC VL	G4294B	4294B_B712_002
1220 Infinity LC VL	G4294B	4294B_B710_004
1220 Infinity LC VL	G4294B	4294B_B701_005

1260 Infinity SFC Modules

NOTE Firmware updates can be done for

- G4301A with the special SFC updater ONLY!
- G4302A/G4303A with Agilent Lab Advisor software (B.02.07 or later) . See Agilent web for ***Firmware Update Tools & Procedures***! See Where To Get Latest Information.

Table 4 - 1260/1290 Infinity SFC Modules

Module	Product#	Filename (.DLB)	Notes
1260 SFC Control Module	G4301A	4301A_x2_A309_005.afi	x
1260 SFC Control Module	G4301A	4301A_x2_A308_009.afi	x
1260 SFC Control Module	G4301A	4301A_x2_A307_009.afi	x
1260 SFC Binary Pump	G4302A	4302A_A702_005	
1260 SFC Binary Pump	G4302A	4302A_A701_001	
1260 SFC Standard Autosampler	G4303A	4303A_A702_005	
1260 SFC Standard Autosampler	G4303A	4303A_A701_001	

NOTE X: individual firmware file for board revision B or C available.

HPLC Modules

NOTE This includes modules introduced as 1100/1200/1290/Infinity/Infinity II modules.

NOTE Firmware updates should be done with Agilent Lab Advisor software (use latest version). This tool provides also the conversion for the emulation mode. See Agilent web for ***Firmware Update Tools & Procedures***! See Where To Get Latest Information.

NOTE Some new 1260/1290 Infinity/Infinity II modules that can be converted to emulate earlier modules shown in the column “Emulation” the type it can be converted to.
Please refer to LabAdvisor to identify if a particular module supports emulation mode. Go to “Apps” -> “Diagnostic Catalog” -> Select "Device Class" and "Device Type" -> Field “Conversions” indicate which module(s) can be emulated.

Pumps

Table 5 - HPLC Modules - Pumps

Module	Product#	Filename (.DLB)	Emulation
1100/1200 Isocratic Pump	G1310A	1310A_A701_001	
1260 Isocratic Pump	G1310B	1310B_A701_001	A
1100/1200 Quaternary Pump	G1311A	1311A_A701_001	
1260 Quaternary Pump	G1311B	1311B_A701_001	A
1260 Quaternary Pump VL	G1311C	1311C_A701_001	A
1100/1200 Binary Pump	G1312A	1312A_A701_001	
1260 Binary Pump	G1312B	1312B_A701_001	A
1260 Binary Pump VL	G1312C	1312C_A701_001	A
1260 Preparative Pump	G1361A	1361A_A701_001	
1260 Capillary Pump	G1376A	1376A_A701_001	
1260 Nanoflow Pump	G2226A	2226A_A701_001	
1290 Quaternary Pump	G4204A	4204A_B739_003	
1290 Quaternary Pump	G4204A	4204A_B738_020	
1290 Quaternary Pump	G4204A	4204A_B738_003	
1290 Quaternary Pump	G4204A	4204A_B737_002	
1290 Quaternary Pump	G4204A	4204A_B735_002	
1290 Quaternary Pump	G4204A	4204A_B734_006	
1290 Quaternary Pump	G4204A	4204A_B733_003	
1290 Quaternary Pump	G4204A	4204A_B730_005	
1290 Quaternary Pump	G4204A	4204A_B728_006	
1290 Quaternary Pump	G4204A	4204A_B727_006	
1290 Quaternary Pump	G4204A	4204A_B725_013	
1290 Quaternary Pump	G4204A	4204A_B723_009	
1290 Quaternary Pump	G4204A	4204A_B720_007	
1290 Quaternary Pump	G4204A	4204A_B710_004	
1290 Quaternary Pump	G4204A	4204A_B701_005	
1290 Binary Pump	G4220A	4220A_B739_020	
1290 Binary Pump	G4220A	4220A_B739_003	
1290 Binary Pump	G4220A	4220A_B738_020	
1290 Binary Pump	G4220A	4220A_B738_002	
1290 Binary Pump	G4220A	4220A_B737_002	
1290 Binary Pump	G4220A	4220A_B735_003	
1290 Binary Pump	G4220A	4220A_B734_006	
1290 Binary Pump	G4220A	4220A_B733_003	
1290 Binary Pump	G4220A	4220A_B730_005	
1290 Binary Pump	G4220A	4220A_B728_006	
1290 Binary Pump	G4220A	4220A_B727_006	

1290 Binary Pump	G4220A	4220A_B725_013	
1290 Binary Pump	G4220A	4220A_B723_009	
1290 Binary Pump	G4220A	4220A_B721_002	
1290 Binary Pump	G4220A	4220A_B720_007	
1290 Binary Pump	G4220A	4220A_B710_004	
1290 Binary Pump	G4220A	4220A_B701_005	
1290 Binary Pump VL	G4220B	4220B_B739_020	
1290 Binary Pump VL	G4220B	4220B_B739_003	
1290 Binary Pump VL	G4220B	4220B_B738_020	
1290 Binary Pump VL	G4220B	4220B_B738_002	
1290 Binary Pump VL	G4220B	4220B_B737_002	
1290 Binary Pump VL	G4220B	4220B_B735_003	
1290 Binary Pump VL	G4220B	4220B_B734_006	
1290 Binary Pump VL	G4220B	4220B_B733_003	
1290 Binary Pump VL	G4220B	4220B_B730_005	
1290 Binary Pump VL	G4220B	4220B_B728_006	
1290 Binary Pump VL	G4220B	4220B_B727_006	
1290 Binary Pump VL	G4220B	4220B_B725_013	
1290 Binary Pump VL	G4220B	4220B_B723_009	
1290 Binary Pump VL	G4220B	4220B_B721_002	
1290 Binary Pump VL	G4220B	4220B_B720_007	
1290 Binary Pump VL	G4220B	4220B_B710_004	
1290 Binary Pump VL	G4220B	4220B_B701_006	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D739_003	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D738_002	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D737_002	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D736_001	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D735_002	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D734_006	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D733_003	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D730_005	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D729_040	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D728_006	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D727_006	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D725_013	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D723_009	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D720_007	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D716_001	
1260 Infinity II Binary Pump SFC	G4782A	4782A_D715_001	
1260 Bio-inert Quaternary Pump	G5611A	5611A_A701_001	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D739_003	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D738_001	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D737_002	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D736_001	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D735_002	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D734_006	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D733_003	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D730_005	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D729_040	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D728_006	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D727_006	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D725_013	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D723_009	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D722_001	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D721_001	

1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D720_007	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D714_001	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D713_002	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D712_002	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D711_001	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D710_005	
1260 Infinity II Bio Quaternary Pump	G5654A	5654A_D702_001	
1290 Infinity II Quaternary Pump	G7104A	7104A_B739_003	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B738_020	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B738_003	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B737_002	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B735_002	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B734_006	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B733_003	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B730_005	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B729_050	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B728_006	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B727_006	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B725_013	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B723_009	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B720_007	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B710_004	G4204A
1290 Infinity II Quaternary Pump	G7104A	7104A_B701_005	
1260 Infinity II Flexible Pump	G7104C	7104C_B739_003	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B738_020	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B738_003	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B737_002	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B735_002	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B734_006	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B733_003	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B730_005	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B729_050	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B728_006	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B727_006	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B725_013	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B723_009	G7104A
1260 Infinity II Flexible Pump	G7104C	7104C_B720_007	G7104A
1260 Infinity II Isocratic Pump	G7110B	7110B_D739_003	
1260 Infinity II Isocratic Pump	G7110B	7110B_D738_001	
1260 Infinity II Isocratic Pump	G7110B	7110B_D737_002	
1260 Infinity II Isocratic Pump	G7110B	7110B_D736_001	
1260 Infinity II Isocratic Pump	G7110B	7110B_D735_002	
1260 Infinity II Isocratic Pump	G7110B	7110B_D734_006	
1260 Infinity II Isocratic Pump	G7110B	7110B_D733_003	
1260 Infinity II Isocratic Pump	G7110B	7110B_D730_005	
1260 Infinity II Isocratic Pump	G7110B	7110B_D729_040	
1260 Infinity II Isocratic Pump	G7110B	7110B_D728_006	
1260 Infinity II Isocratic Pump	G7110B	7110B_D727_006	
1260 Infinity II Isocratic Pump	G7110B	7110B_D725_013	
1260 Infinity II Isocratic Pump	G7110B	7110B_D723_009	
1260 Infinity II Isocratic Pump	G7110B	7110B_D721_001	
1260 Infinity II Isocratic Pump	G7110B	7110B_D720_007	
1260 Infinity II Isocratic Pump	G7110B	7110B_D714_001	
1260 Infinity II Isocratic Pump	G7110B	7110B_D713_002	
1260 Infinity II Isocratic Pump	G7110B	7110B_D712_002	

1260 Infinity II Isocratic Pump	G7110B	7110B_D711_001	
1260 Infinity II Isocratic Pump	G7110B	7110B_D710_005	
1260 Infinity II Isocratic Pump	G7110B	7110B_D702_001	
1260 Infinity II Isocratic Pump	G7110B	7110B_D701_007	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D739_003	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D738_001	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D737_002	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D736_001	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D735_002	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D734_006	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D733_003	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D730_005	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D729_040	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D728_006	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D727_006	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D725_013	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D724_001	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D723_009	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D722_001	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D721_001	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D720_007	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D714_001	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D713_002	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D712_002	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D711_001	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D710_005	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D702_001	
1260 Infinity II Quaternary Pump (400 bar)	G7111A	7111A_D701_007	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D739_003	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D738_001	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D737_002	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D736_001	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D735_002	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D734_006	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D733_003	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D730_005	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D729_040	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D728_006	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D727_006	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D725_013	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D724_001	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D723_009	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D722_001	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D721_001	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D720_007	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D714_001	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D713_002	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D712_002	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D711_001	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D710_005	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D702_001	
1260 Infinity II Quaternary Pump (600 bar)	G7111B	7111B_D701_007	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D739_003	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D738_002	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D737_002	

1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D736_001	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D735_002	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D734_006	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D733_003	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D730_005	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D729_040	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D728_006	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D727_006	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D725_013	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D723_009	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D720_007	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D716_001	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D715_001	
1260 Infinity II Binary Pump (600 bar)	G7112B	7112B_D710_006	
1290 Infinity II Binary Pump	G7120A	7120A_B739_020	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B739_003	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B738_020	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B738_002	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B737_002	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B735_003	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B734_006	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B733_003	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B730_005	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B729_051	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B728_006	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B727_006	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B725_013	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B723_009	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B721_002	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B720_007	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B710_004	G4220A
1290 Infinity II Binary Pump	G7120A	7120A_B701_006	G4220A
1290 Infinity II Bio Flexible Pump	G7131A	7131A_B739_003	
1290 Infinity II Bio Flexible Pump	G7131A	7131A_B738_020	
1290 Infinity II Bio Flexible Pump	G7131A	7131A_B738_003	
1290 Infinity II Bio Flexible Pump	G7131A	7131A_B737_002	
1290 Infinity II Bio Flexible Pump	G7131A	7131A_B735_002	
1290 Infinity II Bio Flexible Pump	G7131A	7131A_B734_006	Initial
1260 Infinity II Bio Flexible Pump	G7131C	7131C_B739_003	
1260 Infinity II Bio Flexible Pump	G7131C	7131C_B738_020	
1260 Infinity II Bio Flexible Pump	G7131C	7131C_B738_003	
1260 Infinity II Bio Flexible Pump	G7131C	7131C_B737_002	
1260 Infinity II Bio Flexible Pump	G7131C	7131C_B735_002	
1260 Infinity II Bio Flexible Pump	G7131C	7131C_B734_006	Initial
1290 Infinity II Bio Binary Pump	G7132A	7132A_B739_020	
1290 Infinity II Bio Binary Pump	G7132A	7132A_B739_003	
1290 Infinity II Bio Binary Pump	G7132A	7132A_B738_020	
1290 Infinity II Bio Binary Pump	G7132A	7132A_B738_002	
1290 Infinity II Bio Binary Pump	G7132A	7132A_B737_002	
1290 Infinity II Bio Binary Pump	G7132A	7132A_B735_003	
1290 Infinity II Bio Binary Pump	G7132A	7132A_B734_006	
1290 Infinity II Bio Binary Pump	G7132A	7132A_B733_003	Initial
1260 Infinity II Prep Binary Pump	G7161A	7161A_D739_003	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D738_001	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D737_002	

1260 Infinity II Prep Binary Pump	G7161A	7161A_D735_002	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D734_006	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D733_003	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D730_005	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D728_006	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D727_006	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D726_002	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D725_013	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D724_001	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D723_009	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D721_001	
1260 Infinity II Prep Binary Pump	G7161A	7161A_D720_018	initial
1290 Infinity II Prep Binary Pump	G7161B	7161B_D739_003	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D738_001	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D737_002	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D735_002	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D734_006	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D733_003	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D730_005	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D728_006	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D727_006	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D726_002	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D725_013	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D724_001	
1290 Infinity II Prep Binary Pump	G7161B	7161B_D723_009	initial

Samplers

Table 6 - HPLC Modules - Samplers

Module	Product#	Filename (.DLB)	Emulation
1100 Autosampler	G1313A	1313A_A702_005	
1100 Autosampler	G1313A	1313A_A701_001	
1100/1200 Standard Autosampler	G1329A	1329A_A702_005	
1100/1200 Standard Autosampler	G1329A	1329A_A701_001	
1260 Standard Autosampler	G1329B	1329B_A702_005	A
1260 Standard Autosampler	G1329B	1329B_A701_001	A
1200 Fraction Collector	G1364A	1364A_A702_005	
1200 Fraction Collector	G1364A	1364A_A701_001	
1260 Fraction Collector (PS)	G1364B	1364B_A702_005	
1260 Fraction Collector (PS)	G1364B	1364B_A701_001	
1260 Fraction Collector (AS)	G1364C	1364C_A702_005	
1260 Fraction Collector (AS)	G1364C	1364C_A701_001	
1260 Fraction Collector (µS)	G1364D	1364D_A702_005	
1260 Fraction Collector (µS)	G1364D	1364D_A701_001	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D739_003	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D738_001	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D737_002	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D735_002	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D734_006	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D733_003	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D730_005	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D728_006	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D727_006	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D725_013	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D724_001	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D723_009	
1260 Infinity II Fraction Collector Preparative	G1364E	1364E_D720_016	Initial
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D739_003	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D738_001	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D737_002	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D735_002	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D734_006	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D733_003	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D730_005	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D728_006	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D727_006	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D725_013	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D724_001	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D723_009	
1260 Infinity II Fraction Collector Analytical	G1364F	1364F_D720_016	Initial
1200 High Performance Autosampler	G1367A	1367A_A702_005	
1200 High Performance Autosampler	G1367A	1367A_A701_001	
1200 High Performance Autosampler	G1367B	1367B_A702_005	A
1200 High Performance Autosampler	G1367B	1367B_A701_001	A
1200 High Performance Autosampler SL	G1367C	1367C_A702_005	A
1200 High Performance Autosampler SL	G1367C	1367C_A701_001	A
1200 High Performance Autosampler SL+	G1367D	1367D_A702_005	C
1200 High Performance Autosampler SL+	G1367D	1367D_A701_001	C
1260 High Performance Autosampler	G1367E	1367E_A702_005	A, B, C, D
1260 High Performance Autosampler	G1367E	1367E_A701_001	A, B, C, D
1260 High Performance Micro Autosampler	G1377A	1377A_A702_005	
1260 High Performance Micro Autosampler	G1377A	1377A_A701_001	

1200 Micro Autosampler	G1389A	1389A_A702_005	
1200 Micro Autosampler	G1389A	1389A_A701_001	
1260 Dual-Loop Autosampler	G2258A	2258A_A701_001	
1260 Dual-Loop Autosampler	G2258A	2258A_A702_005	
1260 Preparative Autosampler	G2260A	2260A_A701_001	
1260 Preparative Autosampler	G2260A	2260A_A702_005	
1260 Infinity II Online Sample Manager	G3167A	3167A_D739_003	
1260 Infinity II Online Sample Manager	G3167A	3167A_D738_003	
1260 Infinity II Online Sample Manager	G3167A	3167A_D737_002	
1260 Infinity II Online Sample Manager	G3167A	3167A_D735_002	
1260 Infinity II Online Sample Manager	G3167A	3167A_D734_006	Initial
1290 Infinity II Online Sample Manager	G3167B	3167B_D739_003	Initial
1290 Autosampler	G4226A	4226A_A702_005	
1290 Autosampler	G4226A	4226A_A701_001	
1290 Infinity II Multisampler SFC	G4767A	4767A_D739_020	
~~1290 Infinity II Multisampler SFC~~	~~G4767A~~	~~4767A_D739_003~~	Do not use
1290 Infinity II Multisampler SFC	G4767A	4767A_D738_003	
1290 Infinity II Multisampler SFC	G4767A	4767A_D737_002	
1290 Infinity II Multisampler SFC	G4767A	4767A_D735_002	
1290 Infinity II Multisampler SFC	G4767A	4767A_D734_006	
1290 Infinity II Multisampler SFC	G4767A	4767A_D733_003	
1290 Infinity II Multisampler SFC	G4767A	4767A_D732_001	
1290 Infinity II Multisampler SFC	G4767A	4767A_D731_001	
1290 Infinity II Multisampler SFC	G4767A	4767A_D730_005	
1290 Infinity II Multisampler SFC	G4767A	4767A_D728_006	
1290 Infinity II Multisampler SFC	G4767A	4767A_D727_006	
1290 Infinity II Multisampler SFC	G4767A	4767A_D726_001	
1290 Infinity II Multisampler SFC	G4767A	4767A_D725_013	
1290 Infinity II Multisampler SFC	G4767A	4767A_D723_009	
1290 Infinity II Multisampler SFC	G4767A	4767A_D722_031	
1290 Infinity II Multisampler SFC	G4767A	4767A_D721_002	
1290 Infinity II Multisampler SFC	G4767A	4767A_D720_008	
1290 Infinity II Multisampler SFC	G4767A	4767A_D717_002	
1290 Infinity II Multisampler SFC	G4767A	4767A_D716_001	
1290 Infinity II Multisampler SFC	G4767A	4767A_D715_002	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D739_003	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D738_001	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D737_002	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D735_002	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D734_006	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D733_003	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D730_005	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D728_006	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D727_006	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D725_013	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D724_001	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D723_009	
1260 Infinity II Fraction Collector Bio	G5664B	5664B_D720_016	Initial
1260 Fraction Collector Bio	G5664A	5664A_A702_005	
1260 Fraction Collector Bio	G5664A	5664A_A701_001	
1260 Infinity II Bio Multisampler	G5668A	5668A_D739_003	
1260 Infinity II Bio Multisampler	G5668A	5668A_D738_003	
1260 Infinity II Bio Multisampler	G5668A	5668A_D737_002	
1260 Infinity II Bio Multisampler	G5668A	5668A_D735_002	

1260 Infinity II Bio Multisampler	G5668A	5668A_D734_006	
1260 Infinity II Bio Multisampler	G5668A	5668A_D733_003	
1260 Infinity II Bio Multisampler	G5668A	5668A_D732_001	
1260 Infinity II Bio Multisampler	G5668A	5668A_D731_001	
1260 Infinity II Bio Multisampler	G5668A	5668A_D730_005	
1260 Infinity II Bio Multisampler	G5668A	5668A_D728_006	
1260 Infinity II Bio Multisampler	G5668A	5668A_D727_006	
1260 Infinity II Bio Multisampler	G5668A	5668A_D726_001	
1260 Infinity II Bio Multisampler	G5668A	5668A_D725_013	
1260 Infinity II Bio Multisampler	G5668A	5668A_D723_009	
1260 Infinity II Bio Multisampler	G5668A	5668A_D722_031	
1260 Infinity II Bio Multisampler	G5668A	5668A_D721_002	
1260 Infinity II Bio Multisampler	G5668A	5668A_D720_008	
1260 Infinity II Bio Multisampler	G5668A	5668A_D717_002	
1260 Infinity II Bio Multisampler	G5668A	5668A_D716_001	
1260 Infinity II Bio Multisampler	G5668A	5668A_D715_001	
1260 Infinity II Bio Multisampler	G5668A	5668A_D710_004	
1260 Infinity II Bio Multisampler	G5668A	5668A_D702_001	
1260 High Performance Autosampler	G5667A	5667A_A702_005	C, E
1260 High Performance Autosampler	G5667A	5667A_A701_001	C, E
1260 Infinity II Vialsampler	G7129A	7129A_D739_003	
1260 Infinity II Vialsampler	G7129A	7129A_D738_001	
1260 Infinity II Vialsampler	G7129A	7129A_D737_002	
1260 Infinity II Vialsampler	G7129A	7129A_D736_001	
1260 Infinity II Vialsampler	G7129A	7129A_D735_002	
1260 Infinity II Vialsampler	G7129A	7129A_D734_006	
1260 Infinity II Vialsampler	G7129A	7129A_D733_003	
1260 Infinity II Vialsampler	G7129A	7129A_D730_005	
1260 Infinity II Vialsampler	G7129A	7129A_D728_006	
1260 Infinity II Vialsampler	G7129A	7129A_D727_006	
1260 Infinity II Vialsampler	G7129A	7129A_D726_001	
1260 Infinity II Vialsampler	G7129A	7129A_D725_013	
1260 Infinity II Vialsampler	G7129A	7129A_D723_009	
1260 Infinity II Vialsampler	G7129A	7129A_D722_031	
1260 Infinity II Vialsampler	G7129A	7129A_D721_002	
1260 Infinity II Vialsampler	G7129A	7129A_D720_007	
1260 Infinity II Vialsampler	G7129A	7129A_D712_002	
1260 Infinity II Vialsampler	G7129A	7129A_D710_004	
1260 Infinity II Vialsampler	G7129A	7129A_D702_001	
1260 Infinity II Vialsampler	G7129A	7129A_D701_005	
1290 Infinity II Vialsampler	G7129B	7129B_D739_003	
1290 Infinity II Vialsampler	G7129B	7129B_D738_001	
1290 Infinity II Vialsampler	G7129B	7129B_D737_002	
1290 Infinity II Vialsampler	G7129B	7129B_D735_002	
1290 Infinity II Vialsampler	G7129B	7129B_D734_006	
1290 Infinity II Vialsampler	G7129B	7129B_D733_003	
1290 Infinity II Vialsampler	G7129B	7129B_D730_005	
1290 Infinity II Vialsampler	G7129B	7129B_D728_006	
1290 Infinity II Vialsampler	G7129B	7129B_D727_006	
1290 Infinity II Vialsampler	G7129B	7129B_D726_001	
1290 Infinity II Vialsampler	G7129B	7129B_D725_013	
1290 Infinity II Vialsampler	G7129B	7129B_D723_009	
1290 Infinity II Vialsampler	G7129B	7129B_D722_031	
1290 Infinity II Vialsampler	G7129B	7129B_D721_002	
1290 Infinity II Vialsampler	G7129B	7129B_D720_007	

1290 Infinity II Vialsampler	G7129B	7129B_D712_002	
1290 Infinity II Vialsampler	G7129B	7129B_D710_004	
1290 Infinity II Vialsampler	G7129B	7129B_D702_001	
1290 Infinity II Vialsampler	G7129B	7129B_D701_005	
1260 Infinity II Vialsampler	G7129C	7129C_D739_003	
1260 Infinity II Vialsampler	G7129C	7129C_D738_001	
1260 Infinity II Vialsampler	G7129C	7129C_D737_002	
1260 Infinity II Vialsampler	G7129C	7129C_D735_002	
1260 Infinity II Vialsampler	G7129C	7129C_D734_006	
1260 Infinity II Vialsampler	G7129C	7129C_D733_003	
1260 Infinity II Vialsampler	G7129C	7129C_D730_005	
1260 Infinity II Vialsampler	G7129C	7129C_D728_006	
1260 Infinity II Vialsampler	G7129C	7129C_D727_006	
1260 Infinity II Vialsampler	G7129C	7129C_D726_001	
1260 Infinity II Vialsampler	G7129C	7129C_D725_013	
1260 Infinity II Vialsampler	G7129C	7129C_D723_009	
1260 Infinity II Vialsampler	G7129C	7129C_D722_031	
1260 Infinity II Vialsampler	G7129C	7129C_D721_002	
1260 Infinity II Vialsampler	G7129C	7129C_D720_007	Initial
1290 Infinity II Bio Multisampler	G7137A	7137A_D739_003	
1290 Infinity II Bio Multisampler	G7137A	7137A_D738_003	
1290 Infinity II Bio Multisampler	G7137A	7137A_D737_002	
1290 Infinity II Bio Multisampler	G7137A	7137A_D735_002	
1290 Infinity II Bio Multisampler	G7137A	7137A_D734_006	
1290 Infinity II Bio Multisampler	G7137A	7137A_D733_003	Initial
1260 Infinity II Prep. Autosampler	G7157A	7157A_D739_003	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D738_001	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D737_002	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D735_002	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D734_006	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D733_003	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D730_005	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D728_006	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D727_006	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D726_001	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D725_013	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D723_009	
1260 Infinity II Prep. Autosampler	G7157A	7157A_D722_031	Initial
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D739_003	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D738_004	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D737_002	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D735_002	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D734_006	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D733_003	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D731_002	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D730_005	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D729_001	

1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D728_007	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D727_006	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D725_013	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D723_009	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D721_001	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D720_007	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D712_002	
1290 Infinity II Preparative Open Bed Fraction Collector	G7159B	7159B_D710_005	
1290 Infinity II Preparative Open Bed Sampler/ Collector	G7158B	7158B_D739_003	
1290 Infinity II Preparative Open Bed Sampler/ Collector	G7158B	7158B_D738_004	
1290 Infinity II Preparative Open Bed Sampler/ Collector	G7158B	7158B_D737_002	
1290 Infinity II Preparative Open Bed Sampler/ Collector	G7158B	7158B_D735_002	
1290 Infinity II Preparative Open Bed Sampler/ Collector	G7158B	7158B_D734_006	
1290 Infinity II Preparative Open Bed Sampler/ Collector	G7158B	7158B_D733_003	
1290 Infinity II Preparative Open Bed Sampler/ Collector	G7158B	7158B_D731_002	
1290 Infinity II Preparative Open Bed Sampler/ Collector	G7158B	7158B_D730_005	
1290 Infinity II Preparative Open Bed Sampler/ Collector	G7158B	7158B_D729_001	
1290 Infinity II Preparative Open Bed Sampler/ Collector	G7158B	7158B_D728_007	Initial
1260 Infinity II Multisampler	G7167A	7167A_D739_003	
1260 Infinity II Multisampler	G7167A	7167A_D738_003	
1260 Infinity II Multisampler	G7167A	7167A_D737_002	
1260 Infinity II Multisampler	G7167A	7167A_D735_002	
1260 Infinity II Multisampler	G7167A	7167A_D734_006	
1260 Infinity II Multisampler	G7167A	7167A_D733_003	
1260 Infinity II Multisampler	G7167A	7167A_D732_001	
1260 Infinity II Multisampler	G7167A	7167A_D731_001	
1260 Infinity II Multisampler	G7167A	7167A_D730_005	
1260 Infinity II Multisampler	G7167A	7167A_D728_006	
1260 Infinity II Multisampler	G7167A	7167A_D727_006	
1260 Infinity II Multisampler	G7167A	7167A_D726_001	
1260 Infinity II Multisampler	G7167A	7167A_D725_013	
1260 Infinity II Multisampler	G7167A	7167A_D723_009	
1260 Infinity II Multisampler	G7167A	7167A_D722_031	
1260 Infinity II Multisampler	G7167A	7167A_D721_002	
1260 Infinity II Multisampler	G7167A	7167A_D720_008	
1260 Infinity II Multisampler	G7167A	7167A_D717_002	
1260 Infinity II Multisampler	G7167A	7167A_D716_001	
1260 Infinity II Multisampler	G7167A	7167A_D715_001	

1260 Infinity II Multisampler	G7167A	7167A_D710_004	
1260 Infinity II Multisampler	G7167A	7167A_D702_001	
1260 Infinity II Multisampler	G7167A	7167A_D701_006	
1290 Infinity II Multisampler	G7167B	7167B_D739_003	
1290 Infinity II Multisampler	G7167B	7167B_D738_003	
1290 Infinity II Multisampler	G7167B	7167B_D737_002	
1290 Infinity II Multisampler	G7167B	7167B_D735_002	
1290 Infinity II Multisampler	G7167B	7167B_D734_006	
1290 Infinity II Multisampler	G7167B	7167B_D733_003	
1290 Infinity II Multisampler	G7167B	7167B_D732_001	
1290 Infinity II Multisampler	G7167B	7167B_D731_001	
1290 Infinity II Multisampler	G7167B	7167B_D730_005	
1290 Infinity II Multisampler	G7167B	7167B_D728_006	
1290 Infinity II Multisampler	G7167B	7167B_D727_006	
1290 Infinity II Multisampler	G7167B	7167B_D726_001	
1290 Infinity II Multisampler	G7167B	7167B_D725_013	
1290 Infinity II Multisampler	G7167B	7167B_D723_009	
1290 Infinity II Multisampler	G7167B	7167B_D722_031	
1290 Infinity II Multisampler	G7167B	7167B_D721_002	
1290 Infinity II Multisampler	G7167B	7167B_D720_008	
1290 Infinity II Multisampler	G7167B	7167B_D717_002	
1290 Infinity II Multisampler	G7167B	7167B_D716_001	
1290 Infinity II Multisampler	G7167B	7167B_D715_001	
1290 Infinity II Multisampler	G7167B	7167B_D710_004	
1290 Infinity II Multisampler	G7167B	7167B_D702_001	
1290 Infinity II Multisampler	G7167B	7167B_D701_006	
1260 Infinity II Hybrid Multisampler	G7167C	7167C_D739_003	
1260 Infinity II Hybrid Multisampler	G7167C	7167C_D738_003	Initial

Detectors

Table 7 - HPLC Modules - Detectors

Module	Product#	Filename (.DLB)	Emulation
1100/1200 Variable Wavelength Detector VWD	G1314A	1314A_A702_001	
1100/1200 Variable Wavelength Detector VWD	G1314A	1314A_A701_001	
1260 Variable Wavelength Detector VL	G1314B	1314B_A702_001	A
1260 Variable Wavelength Detector VL	G1314B	1314B_A701_001	A
1260 Variable Wavelength Detector VL+	G1314C	1314C_A702_001	A, B
1260 Variable Wavelength Detector VL+	G1314C	1314C_A701_001	A, B
1200 Variable Wavelength Detector	G1314D	1314D_B739_003	
1200 Variable Wavelength Detector	G1314D	1314D_B738_001	
1200 Variable Wavelength Detector	G1314D	1314D_B737_002	
1200 Variable Wavelength Detector	G1314D	1314D_B735_002	
1200 Variable Wavelength Detector	G1314D	1314D_B734_006	
1200 Variable Wavelength Detector	G1314D	1314D_B733_003	
1200 Variable Wavelength Detector	G1314D	1314D_B730_005	
1200 Variable Wavelength Detector	G1314D	1314D_B728_006	
1200 Variable Wavelength Detector	G1314D	1314D_B727_006	
1200 Variable Wavelength Detector	G1314D	1314D_B725_013	
1200 Variable Wavelength Detector	G1314D	1314D_B723_009	
1200 Variable Wavelength Detector	G1314D	1314D_B720_007	
1200 Variable Wavelength Detector	G1314D	1314D_B710_004	
1200 Variable Wavelength Detector	G1314D	1314D_B701_005	
1290 Variable Wavelength Detector	G1314E	1314E_B739_003	
1290 Variable Wavelength Detector	G1314E	1314E_B738_001	
1290 Variable Wavelength Detector	G1314E	1314E_B737_002	
1290 Variable Wavelength Detector	G1314E	1314E_B735_002	
1290 Variable Wavelength Detector	G1314E	1314E_B734_006	
1290 Variable Wavelength Detector	G1314E	1314E_B733_003	
1290 Variable Wavelength Detector	G1314E	1314E_B730_005	
1290 Variable Wavelength Detector	G1314E	1314E_B728_006	
1290 Variable Wavelength Detector	G1314E	1314E_B727_006	
1290 Variable Wavelength Detector	G1314E	1314E_B725_013	
1290 Variable Wavelength Detector	G1314E	1314E_B723_009	
1290 Variable Wavelength Detector	G1314E	1314E_B720_007	
1290 Variable Wavelength Detector	G1314E	1314E_B710_004	
1290 Variable Wavelength Detector	G1314E	1314E_B701_005	
1260 Variable Wavelength Detector	G1314F	1314F_B739_003	
1260 Variable Wavelength Detector	G1314F	1314F_B738_001	
1260 Variable Wavelength Detector	G1314F	1314F_B737_002	
1260 Variable Wavelength Detector	G1314F	1314F_B735_002	
1260 Variable Wavelength Detector	G1314F	1314F_B734_006	
1260 Variable Wavelength Detector	G1314F	1314F_B733_003	
1260 Variable Wavelength Detector	G1314F	1314F_B730_005	
1260 Variable Wavelength Detector	G1314F	1314F_B728_006	
1260 Variable Wavelength Detector	G1314F	1314F_B727_006	
1260 Variable Wavelength Detector	G1314F	1314F_B725_013	D
1260 Variable Wavelength Detector	G1314F	1314F_B723_009	D
1260 Variable Wavelength Detector	G1314F	1314F_B720_007	D
1260 Variable Wavelength Detector	G1314F	1314F_B710_004	D
1260 Variable Wavelength Detector	G1314F	1314F_B701_005	D
1100 Diode Array Detector	G1315A	1315A_A702_001	
1100 Diode Array Detector	G1315A	1315A_A701_001	
1100/1200 Diode Array Detector	G1315B	1315B_A702_001	
1100/1200 Diode Array Detector	G1315B	1315B_A701_001	

1260 Diode Array Detector VL+	G1315C	1315C_B739_003	D
1260 Diode Array Detector VL+	G1315C	1315C_B738_001	D
1260 Diode Array Detector VL+	G1315C	1315C_B737_002	D
1260 Diode Array Detector VL+	G1315C	1315C_B735_002	D
1260 Diode Array Detector VL+	G1315C	1315C_B734_006	D
1260 Diode Array Detector VL+	G1315C	1315C_B733_003	D
1260 Diode Array Detector VL+	G1315C	1315C_B730_005	D
1260 Diode Array Detector VL+	G1315C	1315C_B728_006	D
1260 Diode Array Detector VL+	G1315C	1315C_B727_006	D
1260 Diode Array Detector VL+	G1315C	1315C_B725_013	D
1260 Diode Array Detector VL+	G1315C	1315C_B723_009	D
1260 Diode Array Detector VL+	G1315C	1315C_B720_007	D
1260 Diode Array Detector VL+	G1315C	1315C_B710_004	D
1260 Diode Array Detector VL+	G1315C	1315C_B701_005	D
1260 Diode Array Detector VL	G1315D	1315D_B739_003	
1260 Diode Array Detector VL	G1315D	1315D_B738_001	
1260 Diode Array Detector VL	G1315D	1315D_B737_002	
1260 Diode Array Detector VL	G1315D	1315D_B735_002	
1260 Diode Array Detector VL	G1315D	1315D_B734_006	
1260 Diode Array Detector VL	G1315D	1315D_B733_003	
1260 Diode Array Detector VL	G1315D	1315D_B730_005	
1260 Diode Array Detector VL	G1315D	1315D_B728_006	
1260 Diode Array Detector VL	G1315D	1315D_B727_006	
1260 Diode Array Detector VL	G1315D	1315D_B725_013	
1260 Diode Array Detector VL	G1315D	1315D_B723_009	
1260 Diode Array Detector VL	G1315D	1315D_B720_007	
1260 Diode Array Detector VL	G1315D	1315D_B710_004	
1260 Diode Array Detector VL	G1315D	1315D_B701_005	
1100/1200 Fluorescence Detector SPECTRA	G1321A	1321A_A702_001	
1100/1200 Fluorescence Detector SPECTRA	G1321A	1321A_A701_001	
1260 Fluorescence Detector SPECTRA	G1321B	1321B_A702_001	A
1260 Fluorescence Detector SPECTRA	G1321B	1321B_A701_001	A
1260 Fluorescence Detector	G1321C	1321C_A702_001	
1260 Fluorescence Detector	G1321C	1321C_A701_001	
1260 Refractive Index Detector	G1362A	1362A_A702_001	
1260 Refractive Index Detector	G1362A	1362A_A701_001	
1100 Multiple Wavelength Detector	G1365A	1365A_A702_001	
1100 Multiple Wavelength Detector	G1365A	1365A_A701_001	
1100/1200 Multiple Wavelength Detector	G1365B	1365B_A702_001	
1100/1200 Multiple Wavelength Detector	G1365B	1365B_A701_001	
1260 Multiple Wavelength Detector	G1365C	1365C_B739_003	D
1260 Multiple Wavelength Detector	G1365C	1365C_B738_001	D
1260 Multiple Wavelength Detector	G1365C	1365C_B737_002	D
1260 Multiple Wavelength Detector	G1365C	1365C_B735_002	D
1260 Multiple Wavelength Detector	G1365C	1365C_B734_006	D
1260 Multiple Wavelength Detector	G1365C	1365C_B733_003	D
1260 Multiple Wavelength Detector	G1365C	1365C_B730_005	D
1260 Multiple Wavelength Detector	G1365C	1365C_B728_006	D
1260 Multiple Wavelength Detector	G1365C	1365C_B727_006	D
1260 Multiple Wavelength Detector	G1365C	1365C_B725_013	D
1260 Multiple Wavelength Detector	G1365C	1365C_B723_009	D
1260 Multiple Wavelength Detector	G1365C	1365C_B720_007	D
1260 Multiple Wavelength Detector	G1365C	1365C_B710_004	D
1260 Multiple Wavelength Detector	G1365C	1365C_B701_005	D
1260 Multiple Wavelength Detector VL	G1365D	1365D_B739_003	

1260 Multiple Wavelength Detector VL	G1365D	1365D_B738_001	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B737_002	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B735_002	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B734_006	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B733_003	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B730_005	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B728_006	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B727_006	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B725_013	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B723_009	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B720_007	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B710_004	
1260 Multiple Wavelength Detector VL	G1365D	1365D_B701_005	
1290 Diode Array Detector	G4212A	4212A_B739_003	
1290 Diode Array Detector	G4212A	4212A_B738_001	
1290 Diode Array Detector	G4212A	4212A_B737_002	
1290 Diode Array Detector	G4212A	4212A_B735_002	
1290 Diode Array Detector	G4212A	4212A_B734_006	
1290 Diode Array Detector	G4212A	4212A_B733_003	
1290 Diode Array Detector	G4212A	4212A_B730_005	
1290 Diode Array Detector	G4212A	4212A_B728_006	
1290 Diode Array Detector	G4212A	4212A_B727_006	
1290 Diode Array Detector	G4212A	4212A_B725_013	
1290 Diode Array Detector	G4212A	4212A_B723_009	
1290 Diode Array Detector	G4212A	4212A_B720_007	
1290 Diode Array Detector	G4212A	4212A_B710_004	
1290 Diode Array Detector	G4212A	4212A_B701_005	
1260 Diode Array Detector	G4212B	4212B_B739_003	
1260 Diode Array Detector	G4212B	4212B_B738_001	
1260 Diode Array Detector	G4212B	4212B_B737_002	
1260 Diode Array Detector	G4212B	4212B_B735_002	
1260 Diode Array Detector	G4212B	4212B_B734_006	
1260 Diode Array Detector	G4212B	4212B_B733_003	
1260 Diode Array Detector	G4212B	4212B_B730_005	
1260 Diode Array Detector	G4212B	4212B_B728_006	
1260 Diode Array Detector	G4212B	4212B_B727_006	
1260 Diode Array Detector	G4212B	4212B_B725_013	
1260 Diode Array Detector	G4212B	4212B_B723_009	
1260 Diode Array Detector	G4212B	4212B_B720_007	
1260 Diode Array Detector	G4212B	4212B_B710_004	
1260 Diode Array Detector	G4212B	4212B_B701_005	
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D739_003	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D738_002	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D737_002	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D735_002	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D734_006	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D733_003	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D730_005	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D728_006	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D727_006	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D726_002	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D725_013	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D723_009	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D720_007	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D712_001	G1314D/F

1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D711_001	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D710_004	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D702_001	G1314D/F
1290 Infinity II Variable Wavelength Detector	G7114B	7114B_D701_005	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D739_003	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D738_002	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D737_002	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D735_002	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D734_006	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D733_003	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D730_005	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D728_006	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D727_006	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D726_002	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D725_013	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D723_009	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D720_007	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D712_001	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D711_001	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D710_004	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D702_001	G1314D/F
1260 Infinity II Variable Wavelength Detector	G7114A	7114A_D701_005	G1314D/F
1260 Infinity II Diode Array Detector	G7115A	7115A_D739_003	
1260 Infinity II Diode Array Detector	G7115A	7115A_D738_001	
1260 Infinity II Diode Array Detector	G7115A	7115A_D737_002	
1260 Infinity II Diode Array Detector	G7115A	7115A_D735_002	
1260 Infinity II Diode Array Detector	G7115A	7115A_D734_006	
1260 Infinity II Diode Array Detector	G7115A	7115A_D733_003	
1260 Infinity II Diode Array Detector	G7115A	7115A_D730_005	
1260 Infinity II Diode Array Detector	G7115A	7115A_D728_006	
1260 Infinity II Diode Array Detector	G7115A	7115A_D727_006	
1260 Infinity II Diode Array Detector	G7115A	7115A_D725_013	
1260 Infinity II Diode Array Detector	G7115A	7115A_D723_009	
1260 Infinity II Diode Array Detector	G7115A	7115A_D720_007	
1260 Infinity II Diode Array Detector	G7115A	7115A_D712_002	
1260 Infinity II Diode Array Detector	G7115A	7115A_D710_004	
1260 Infinity II Diode Array Detector	G7115A	7115A_D701_005	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D739_003	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D738_001	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D737_002	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D735_002	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D734_006	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D733_003	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D730_005	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D728_006	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D727_006	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D725_013	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D723_009	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D720_007	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D712_002	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D710_004	
1260 Infinity II Multiple Wavelength Detector	G7165A	7165A_D701_005	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D739_003	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D738_001	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D737_002	

1260 Infinity II Diode Array Detector HS	G7117C	7117C_D735_002	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D734_006	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D733_003	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D730_005	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D728_006	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D727_006	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D725_013	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D723_009	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D720_007	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D710_004	
1260 Infinity II Diode Array Detector HS	G7117C	7117C_D701_005	
1290 Infinity II Diode Array Detector	G7117B	7117B_D739_003	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D738_001	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D737_002	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D735_002	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D734_006	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D733_003	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D730_005	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D728_006	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D727_006	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D725_013	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D723_009	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D720_007	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D710_004	G4212A
1290 Infinity II Diode Array Detector	G7117B	7117B_D701_005	G4212A
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D739_003	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D738_001	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D737_002	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D735_002	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D734_006	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D733_003	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D730_005	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D728_006	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D727_006	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D725_013	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D723_009	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D720_007	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D710_004	G4212B
1290 Infinity II Diode Array Detector FS	G7117A	7117A_D701_005	G4212B
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D739_003	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D738_001	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D737_002	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D735_002	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D734_006	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D733_003	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D731_004	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D730_005	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D729_003	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D729_002	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D728_006	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D727_006	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D726_001	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D725_013	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D724_001	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D723_009	

1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D720_009	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D715_001	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D712_001	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D711_001	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D710_004	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D701_011	
1260 Infinity II Fluorescence Detector SPECTRA	G7121B	7121B_D701_001	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D739_003	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D738_001	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D737_002	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D735_002	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D734_006	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D733_003	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D731_004	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D730_005	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D729_003	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D729_002	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D728_006	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D727_006	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D726_001	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D725_013	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D724_001	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D723_009	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D720_009	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D715_001	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D712_001	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D711_001	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D710_004	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D701_011	
1260 Infinity II Fluorescence Detector	G7121A	7121A_D701_001	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D739_003	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D738_001	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D737_002	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D735_003	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D734_006	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D733_003	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D730_005	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D728_006	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D727_006	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D725_013	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D723_009	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D720_007	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D710_004	
1290 Infinity II Refractive Index Detector MICRO	G7162B	7162B_D701_005	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D739_003	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D738_001	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D737_002	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D735_003	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D734_006	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D733_003	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D730_005	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D728_006	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D727_006	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D725_013	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D723_009	

1260 Infinity II Refractive Index Detector	G7162A	7162A_D720_007	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D710_004	
1260 Infinity II Refractive Index Detector	G7162A	7162A_D701_005	

Other Modules

Table 8 - HPLC Modules - Others

Module	Product#	Filename (.DLB)	Emulation
1260 Thermostatted Column Compartment	G1316A	1316A_A702_001	
1260 Thermostatted Column Compartment	G1316A	1316A_A701_001	
1200 Thermostatted Column Compartment	G1316B	1316B_A702_001	
1200 Thermostatted Column Compartment	G1316B	1316B_A701_001	
1290 Thermostatted Column Compartment	G1316C	1316C_A702_001	A, B
1290 Thermostatted Column Compartment	G1316C	1316C_A701_001	A, B
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C732_040	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C732_020	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C732_002	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C731_002	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C730_001	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C723_040	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C723_020	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C723_001	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C722_002	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C721_001	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C720_002	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C710_001	
1260 Infinity II Multicolumn Thermostat	G7116A	7116A_C701_001	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C732_040	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C732_020	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C732_002	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C731_002	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C730_001	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C723_040	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C723_020	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C723_001	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C722_002	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C721_001	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C720_002	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C710_001	
1290 Infinity II Multicolumn Thermostat	G7116B	7116B_C701_001	
1290 Infinity II Valve-based Fraction Collector	G7166A	7166A_C730_001	
1290 Infinity II Valve-based Fraction Collector	G7166A	7166A_C720_002	
1290 Infinity II Valve-based Fraction Collector	G7166A	7166A_C710_001	
1290 Infinity II MS Flow Modulator	G7170B	7170B_C731_001	
1290 Infinity II MS Flow Modulator	G7170B	7170B_C730_001	
1290 Infinity II MS Flow Modulator	G7170B	7170B_C720_002	Initial
1260 Automation Interface (WPS, AFC)	G2254A	2254A_A701_001	
1290 Flexible Cube	G4227A	4227A_C730_001	1
1290 Flexible Cube	G4227A	4227A_C720_002	1
1290 Flexible Cube	G4227A	4227A_C710_001	1
1290 Flexible Cube	G4227A	4227A_C701_001	1
1260 Chip Cube MS Interface	G4240A	4240A_A701_001	
1260 6-Position/7-Ports Valve	G1156A	1156A_A701_001	
1260 2-Position/10-Ports Valve	G1157A	1157A_A701_001	
1200 2-Position/6-Ports Valve	G1158A	1158A_A701_001	
1260 2-Position/6-Ports Valve	G1158B	1158B_A701_001	
1260 6-Position Column Selector Valve	G1159A	1159A_A701_001	
1260 12-Position Selector Valve	G1160A	1160A_A701_001	
1260 Micro Valve 2-Position/6-Ports	G1162A	1162A_A701_001	
1260 Micro Valve 2-Position/10-Ports	G1163A	1163A_A701_001	

1290 Infinity Valve Drive	G1170A	1170A_C730_001	1
1290 Infinity Valve Drive	G1170A	1170A_C720_003	1
1290 Infinity Valve Drive	G1170A	1170A_C710_001	1
1290 Infinity Valve Drive	G1170A	1170A_C701_001	1
1260 Universal Interface Box (UIB II)	G1390B	1390B_C730_001	1
1260 Universal Interface Box (UIB II)	G1390B	1390B_C720_002	1
1260 Universal Interface Box (UIB II)	G1390B	1390B_C701_001	1
1260 Universal Interface Box (UIB)	G1390A	1390A_A701_001	
LAN Interface Card G1369C	G1369C	1369C_B739_003	2
LAN Interface Card G1369C	G1369C	1369C_B738_001	2
LAN Interface Card G1369C	G1369C	1369C_B737_002	2
LAN Interface Card G1369C	G1369C	1369C_B735_002	2
LAN Interface Card G1369C	G1369C	1369C_B734_006	2
LAN Interface Card G1369C	G1369C	1369C_B733_003	2
LAN Interface Card G1369C	G1369C	1369C_B730_005	2
LAN Interface Card G1369C	G1369C	1369C_B728_006	2
LAN Interface Card G1369C	G1369C	1369C_B727_006	2
LAN Interface Card G1369C	G1369C	1369C_B725_013	2
LAN Interface Card G1369C	G1369C	1369C_B723_009	2
LAN Interface Card G1369C	G1369C	1369C_B720_007	2
LAN Interface Card G1369C	G1369C	1369C_B710_004	2
LAN Interface Card G1369C	G1369C	1369C_B701_005	2
G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B736_001	
G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B735_002	
G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B734_006	
G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B730_001	
G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B722_001	
G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B721_001	
G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B720_006	
G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B710_004	
G7100 Capillary Electrophoresis (CE)	G7100A	7101A_B701_001	
Controllers are now listed in a separate bulletin!	G1323A/B G4208A G7108AA		

Notes:

1. To operate this CAN-slave module a host module with firmware from the same set/revision (any pump or detector with B.06.30 or above) is required.
2. If hosted modules are used in the system, the G1369C LAN Interface Card MUST have the same firmware revision (from the same set) as the hosted module. Otherwise, the operation of hosted modules will show malfunctions.
3. Always use the latest revision.

Core Firmware Changes

NOTE The core firmware changes are implemented on all modules in addition to module specific changes.

Modules without on-board LAN (“A” firmware)

Core Changes A.07.01

Table 9 - Core Changes A.07.01 (modules without on-board LAN)

Date Introduced:	May 2016
General:	For all modules with “A” firmware based on A.07.01 main firmware.
Bugfix:	• TeamTrack #022136, #022284, #022347, #024002, #024004, #024037, #024858: Make CAN-connections more robust for instruments with heavy data load. This also prevents modules from occasionally showing SW-watchdog panics. • TeamTrack #018247: Fixed that on a new board for the first start-up, the real-time-clock is set to '1970-01-01 00:00' now before first entry to diag-buffers to avoid entries with undefined time stamps. • No TeamTrack: Make HPIB-connection more robust to prevent from occasionally occurring panics in the module.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Modules with on-board LAN (“B” and “D” firmware)

Core Changes B/D.07.39

Table 10 - Core Changes B/D.07.39 (modules with on-board LAN)

Date Introduced:	Oct 2023
General:	For all modules with “B” and “D” firmware.
Bugfix:	• KPR# 799178 Implemented better diagnostic entries to show non-matching interface-revisions in the hosting protocol of hosting modules. A non-matching interface-revision results in rejected hosting of the hosting module. • KPR# 799598 The following problem occurred only if a “delay volume calibration was executed and the following analysis was using the fraction mode “Next position”. By running a ‘delay volume calibration’ the ‘Last Used Position’ was set to an invalid value. If the next analysis was using the fraction mode “Next Position” the error (EE 4958 -no valid next position) occurred. The change now ensures that the ‘Last Used Position’ is not changed by the ‘delay volume calibration’. (Only when hosting a G7166A). • KPR# 944263 The following problem occurred only if fraction mode pooling was used. A sequence contained multiple injections of the same sample with the intent to pool the collected fractions. The first run gave an absolute start location for the fractions, all other runs are set to Pooling. If the first run did not collect any fractions, the pooling of the following runs referred to the fraction start location of the last run before this sequence (or the first available fraction location on the fraction bed). The change now ensures that the correct start position is used. (Only when hosting a G7166A).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.38

Table 11 - Core Changes B/D.07.38 (modules with on-board LAN)

Date Introduced:	May 2023
General:	For all modules with “B” and “D” firmware.
Bugfix:	• KPR# 742868 The following problem occurred only when using a fraction collector cluster. The first fraction collector (FC) filled up his last free location within a run. This automatically activated the second FC. There the first free position will be used for the next fraction. If this position is not needed in the current RUN, the following problem occurred. On the next run, the second FC skips the first position and starts at the second position. This change prevents the unnecessary skipping of the free position. (Only when hosting a G7166A) • KPR# 742868 The following issue occurred only when using fraction mode "Time-based, collecting a number of fractions". In addition, the number of fractions must be the same. In this

	case the first time interval set in the time table (TT) was wrongly used for the following time table entries. Here, time interval means the time between the first and second TT entry. To prevent this issue, the time between the TT entries is now also taken into account. If there is a difference, the time interval for the next fraction is determined correctly. (Only when hosting a G7166A)
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.37

Table 12 - Core Changes B/D.07.37 (modules with on-board LAN)

Date Introduced:	December 2022
General:	For all modules with “B” and “D” firmware.
Bugfix:	• KPR #599017 Running a sequence with many lines, in first sequence line the fraction start position is defined, all other lines use "next location". If in the current analysis #2 no fractions are collected due to "FractionCollection: disable method", in the next analysis #3 the start position is wrongly calculated to the second fraction position of the previous analysis #1 (only when hosting a G7166A).
New Features:	• Implemented support for main boards with new flash memory chips (previously used flash memory chips are no longer available; D.07.37 FW only).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.35

Table 13 - Core Changes B/D.07.35 (modules with on-board LAN)

Date Introduced:	December 2021
General:	For all modules with “B” and “D” firmware.
Bugfix:	• KPR#570679 Using the %-sign in string-arguments of several instructions, e.g. SANA or SAMPLE:NAME, led to possible module crash.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B.07.34

Table 14 - Core Changes B.07.34 (G7100A only)

Date Introduced:	September 2021
General:	Only for G7100A (Capillary Electrophoresis) with “B” firmware.
Bugfix:	• KPR#397780 Improved handling of rare abort- and error-situations during very complex hardware operations. • KPR#305103 Inserted better verification of updated firmware files to prevent from corrupt flashed files. Corrupt flashed files may be the reason for several malfunctioning, e.g. module does not start at all. This fix together with using the new resident systems B.07.27/D.07.27 prevents from corrupt flashed files.

	If the firmware update now fails during verification step with message "Download Verification Failed" or “Flash write access failed”, try again and repeat the firmware update. • KPR#031402 Added periodic update of “diag Flash Counter” to prevent partial loss of data on cold start. • KPR#031297 Before, the error method of a module got only loaded for errors that occurred on the module itself. Now, the error information is propagated to all other modules in the system, if one module is switched into the error state. All informed modules are triggered to load their error method. • KPR#030010 Make system more resistant against LAN vulnerabilities, i.e. caused by port-scans.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.34

Table 15 - Core Changes B/D.07.34 (modules with on-board LAN)

Date Introduced:	June 2021
General:	For all modules with “B” and “D” firmware.
Bugfix:	• KPR#500168 Fixed that sporadically the module might had crashed when inserting USB-Dongles to install/uninstall licenses (for e.g. ISET or LabCompanion). Fixes implemented in Core of host for following modules (FW-Update of host needed): Hosted module “Valve-based FC G7166A”: • KPR#223520 Fixed that fraction start location was wrongly reset to A1 if no fraction was collected in first run of a sequence even if start location was set to another location before. Hosted module “Valve-based FC G7166A”: • KPR#529223 Fixed that the fraction collection might unexpectedly stop in the following setup: method with time-sliced fraction collection (Time Table), depending on - flow - dead volume between detector and fraction collector - begin and end of fraction collection
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.33

Table 16 - Core Changes B/D.07.33 (modules with on-board LAN)

Date Introduced:	November 2020
General:	For all modules with “B” and “D” firmware.

Bugfix:	• KPR#447001 Implemented some improvements for better “module internal diagnostic and tracing" in case of errors.
New Features:	• Implemented support for InfinityLab LC Companion ver. 1.03
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.30

Table 17 - Core Changes B/D.07.30 (modules with on-board LAN)

Date Introduced:	May 2020
General:	For all modules with “B” and “D” firmware.
Bugfix:	• KPR#352909 Make restarts after firmware update more stable in large instruments with many modules. • KPR#397780 Improved handling of rare abort- and error-situations during very complex hardware operations. • KPR#419269 Fixed sporadically occurring connection problems with USB-connected LC LabCompanion (tablet).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.28

Table 18 - Core Changes B/D.07.28 (modules with on-board LAN)

Date Introduced:	December 2019
General:	For all modules with “B” and “D” firmware.
Bugfix:	• KPR#303309; KPR#248752, KPR#247595 Fixed that slave-rehosting sporadically may have led to too much CAN bus load (“CAN bus off”). • KPR#372866 Fixed that modules sporadically needed a very long startup-time (up to 30 minutes) after power-on. During this enlarged startup-time the module was not visible in the instrument. • KPR#155615 Removed the limits for PeakDetection parameters "Threshold" and "UpperThreshold". (only when hosting a Valve based Fraction Collector G7166A) • KPR#343200 Changes of peak detection parameters for different peak trigger sources (DAD - SigA and Sig B, MSD) within a short time (0.01min = 0.6sec) are now correctly handled. (only when hosting a Valve based Fraction Collector G7166A) • KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector. (only when hosting a Valve based Fraction Collector G7166A). • KPR#299060 After power-on the module with the ERI-APG-Remote-cable to

	MSD the first peak found by MSD was not collected! Fixed, first peak now collected correctly. The FW for the fraction collector as well the FW of the module with the ERI-APG-Remote-cable must be upgraded! (only when hosting a Valve based Fraction Collector G7166A) • KPR#344608 In very rare cases a crash to resident system occurred when another method was loaded. Fixed. (only when hosting a Valve based Fraction Collector G7166A) • KPR#361277 In case of overfill of the last position of a fraction collector the number and reason for this fraction is now correctly transmitted to next fraction collector. (only when hosting a Valve based Fraction Collector G7166A) • KPR#318980 Fixed a sporadic failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. (only when hosting a Valve based Fraction Collector G7166A)
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.27

Table 19 - Core Changes B/D.07.27 (modules with on-board LAN)

Date Introduced:	June 2019
General:	For all modules with “B” and “D” firmware.
Bugfix:	• KPR#305103 Inserted better verification of updated firmware files to prevent from corrupt flashed files. Corrupt flashed files may be the reason for several malfunctioning, e.g. module does not start at all. This fix together with using the new resident systems B.07.27/D.07.27 prevents from corrupt flashed files. If the firmware update now fails during verification step with message "Download Verification Failed" or “Flash write access failed”, try again and repeat the firmware update. • KPR#304109 Fixed that ERI-devices (Leak-Extension device or ERI-valve G9322A) connected to the ERI interface (Enhanced Remote Interface) sporadically were not recognized correctly after power-on.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.25

Table 20 - Core Changes B/D.07.25 (modules with on-board LAN)

Date Introduced:	October 2018
General:	For all modules with “B” and “D” firmware.
Bugfix:	• TeamTrack #031297 Before, the error method of a module got only loaded for errors that occurred on the module itself. Now, the error information is propagated to all other modules in the system, if one module is switched into the error state. All informed modules are triggered to load their error method.

	• TeamTrack#031402 Added periodic update of diag Flash Counter to prevent partial loss of data on cold start. • No TeamTrack: Fixed that connected G9322A ERI-hardware was not reliable detected on some modules. • TeamTrack #031067 Re-activating parked trigger when Fraction Collector becomes active during analysis to prevent from fraction wrongly collected between two peaks. Only when hosting a G7166A. • TeamTrack #029791 Fixed behavior of peak detection combined with upper threshold (peak start of next peak was occasionally not reported due to state is still in-peak). Only when hosting a G7166A. • KPR#245800 Fixed following error in license handling (with USB dongle): If two or more licenses were installed on a module, removing of one license with LabAdvisor could have led to a blocked and finally crashed system.
New Features:	• Implemented support for new InfinityLab Companion G7108A (only modules with revision letter D). • Make system more resistant against LAN vulnerabilities, i.e. caused by port-scans.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.23

Table 21 - Core Changes B/D.07.23 (modules with on-board LAN)

Date Introduced:	February 2018
General:	For all modules with “B” and “D” firmware.
Bugfix:	• TeamTrack #029956: Fixed sporadically occurring panic “unexpected signal” in hosted module’s NVRAMHandler. The panic occurred on the module hosting the hosted module.
New Features:	• Support for the new G9322A valve (hosted module connected to ERI). (only for Infinity II Fusion modules).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.20

Table 22 - Core Changes B/D.07.20 (modules with on-board LAN)

Date Introduced:	June 2017
General:	For all modules with “B” and “D” firmware.
Bugfix:	• TeamTrack #024787: Fix for occasionally appearing panics during FW-Update of hosted modules. • Fixed problem with slow or disconnected LAN-connection if special retransmission- pattern occurs in the LAN (only modules with revision letter D).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.12

Table 23 - Core Changes B/D.07.12 (modules with on-board LAN)

Date Introduced:	December 2016
General:	For all modules with “B” and“D” firmware.
Bugfix:	• TeamTrack #26486: Adapted that pin #5 of ERI-APG Remote interface now works like the GPIO-interface of the UIB I and UIB II, now allowing the MS-based fraction-collection. • TeamTrack #26863: Fixed that module occasionally woke up in resident when working with manual injector in the system.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.10

Table 24 - Core Changes B/D.07.10 (modules with on-board LAN)

Date Introduced:	October 2016
General:	For all modules with “B” and “D” firmware.
Bugfix:	• None
New Features:	• Implemented hosting-support for new Prep Valve-based Collector G7166A.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes B/D.07.01

Table 25 - Core Changes B/D.07.01 (modules with on-board LAN)

Date Introduced:	May 2016
General:	For all modules with “B” and “D” firmware.
Bugfix:	• None
New Features:	• Implemented hosting functionality for slave modules with revision C.07.01. • Implemented hosting-support for new module Multi-Column Thermostat G7116A.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Modules with “C” firmware

Core Changes C.07.30

Table 26 - Core Changes C.07.30 (modules with C-firmware)

Date Introduced:	May 2020
General:	• Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes C.07.20

Table 27 - Core Changes C.07.20 (modules with C-firmware)

Date Introduced:	June 2017
General:	• Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes C.07.10

Table 28 - Core Changes C.07.10 (modules with C-firmware)

Date Introduced:	June 2017
General:	• Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Core Changes C.07.01

Table 29 - Core Changes C.07.01 (modules with C-firmware)

Date Introduced:	May 2016
General:	
Bugfix:	• TeamTrack #022136, #022284, #022347, #024002, #024004, #024037, #024858: Make CAN-connections more robust for instruments with heavy data load. This also prevents modules from occasionally showing SW-watchdog panics.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Pump Firmware Changes

Iso- / Quat- / Bin-Pump (G1310A, G1311A, G1312A)

Table 30 - Pump Changes A.07.01 (G1310A, G1311A, G1312A)

Date Introduced:	July 2015
Revision:	1310A_A701_001, 1311A_A701_001, 1312A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Iso- / Quat- / Bin-Pump (G1310B, G1311B, G1311C, G1312C, G5611A)

Table 31 - Pump Changes A.07.01 (G1310B, G1311B, G1311C, G1312C, G5611A)

Date Introduced:	May 2016
Revision:	1310B_A701_001, 1311B_A701_001, 1311C_A701_001, 1312C_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Quaternary Pump (G4204A, G7104A)

Table 32 - Pump Changes B.07.39 (G4204A, G7104A)

Date Introduced:	Oct 2023
Revision:	4204A_B739_003, 7104A_B739_003, Res_B739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 33 - Pump Changes B.07.38[020] (G4204A, G7104A)

Date Introduced:	Aug 2023
Revision:	4204A_B738_020, 7104A_B738_020
General:	
Bugfix:	• KPR 944783 Fixed that flow ramp up/down was not working correctly if set to small values below 1 ml/min². When the flow ramp up/down was set to small values, e.g. 0.1 ml/min² the actual ramp was wrong/extremely high. The flow changed immediately to the new value. This behavior is fixed now. Only firmware revision B.07.38 [003] was affected.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 34 - Pump Changes B.07.38 (G4204A, G7104A)

Date Introduced:	May 2023
Revision:	4204A_B738_003, 7104A_B738_003, Res_B738_001
General:	See Core Changes B/D.07.38
Bugfix:	• KPR# 792824 G7116A valve switching issue during run Customer wanted to switch MCT valve by using time table automation during the run. This did not work with the quaternary pumps anymore since firmware revision B.07.27. The fix will re-enable this again in firmware revision B.07.38.
New Features:	• The range for flow ramp up/down now starts from 0.1 ml/min^2 (instead 1 ml/min^2).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 35 - Pump Changes B.07.37 (G4204A, G7104A)

Date Introduced:	December 2022
Revision:	4204A_B737_002, 7104A_B737_002, Res_B737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• Implemented support for main boards with new chip set for stepper driver as old chip is no longer available (only for G71xx pump modules).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 36 - Pump Changes B.07.35 (G4204A, G7104A)

Date Introduced:	December 2021

Revision:	4204A_B735_002, 7104A_B735_002, Res_B735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 37 - Pump Changes B.07.34 (G4204A, G7104A)

Date Introduced:	June 2021
Revision:	4204A_B734_006, 7104A_B734_006, Res_B734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• Code supports the new module types G7131A and G7131C.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 38 - Pump Changes B.07.33 (G4204A, G7104A)

Date Introduced:	November 2020
Revision:	4204A_B733_003, 7104A_B733_003, Res_B733_003
General:	See Core Changes B/D.07.33
Bugfix:	• KPR# 458229 The range for the method parameter "low pressure limit" was wrongly limited to 1200 bar for pumps with maximum pressure higher than 1200 bar. Now the correct limits are used, up to the maximum pressure of the pump.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 39 - Pump Changes B.07.30 (G4204A, G7104A)

Date Introduced:	May 2020
Revision:	4204A_B730_005, 7104A_B730_005, Res_B730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 248491 The pump shows 'not ready'-state until the desired degasser pressure has been reached. The pump gets ready, once the "not ready" limit of 150 mbar is reached or creates an error when new time-out of 16 minutes is reached. After being in 'ready'-state the pump goes into error if vacuum drops beyond error limit again. • KPR# 388914 Sporadically the internal pump leak rate test wrongly failed because of wrong parameter settings.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 40 - Pump Changes B.07.29 (G7104A)

Date Introduced:	Dec 2022
Revision:	7104A_B729_050
General:	Backward Compatibility release for FW B.07.2x decade
Bugfix:	• None

New Features:	• Implemented support for main boards with new chip set for stepper driver as old chip is no longer available (only for G71xx pump modules).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 41 - Pump Changes B.07.28 (G4204A, G7104A)

Date Introduced:	December 2019
Revision:	4204A_B728_006, 7104A_B728_006, Res_B728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#348518 Pump now respects the flow ramp down parameter to ramp down the flow to the needed pressure for switching. This could result in a longer time for this period. To get same timing as before set ramp down parameter to maximum.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 42 - Pump Changes B.07.27 (G4204A, G7104A)

Date Introduced:	June 2019
Revision:	4204A_B727_006, 7104A_B727_006, Res_B727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 43 - Pump Changes B.07.25 (G4204A, G7104A)

Date Introduced:	October 2018
Revision:	4204A_B725_013, 7104A_B725_013, Res_B725_006
General:	See Core Changes B/D.07.25
Bugfix:	TeamTrack #031757 Flow-ramp down occasionally did not finish if valve switch and 'FLOW 0' were close together.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 44 - Pump Changes B.07.23 (G4204A, G7104A)

Date Introduced:	February 2018
Revision:	4204A_B723_009, 7104A_B723_009, Res_B723_009
General:	See Core Changes B/D.07.23.
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 45 - Pump Changes B.07.20 (G4204A, G7104A)

Date Introduced:	June 2017
Revision:	4204A_B720_007, 7104A_B720_007, Res_B720_002
General:	See Core Changes B/D.07.20
Bugfix:	• None

New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 46 - Pump Changes B.07.10 (G4204A, G7104A)

Date Introduced:	October 2016
Revision:	4204A_B710_004, 7104A_B710_004, Res_B710_002
General:	
Bugfix:	• TeamTrack #026250, Presto Esc. #127443: Fixed that the mixer's tag-reading sometimes failed. • TeamTrack #025735: Fixed that the seal wash did not stop sometimes after power-on even if switched off before.
New Features:	• See Core Changes B/D.07.10.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 47 - Pump Changes B.07.01 (G4204A, G7104A)

Date Introduced:	May 2016
Revision:	4204A_B701_005, 7104A_B701_005, Res_B701_001
General:	
Bugfix:	• None
New Features:	• See Core Changes B/D.07.01.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Flexible Pump (G7104C, G7131A, G7131C)

Table 48 - Pump Changes B.07.39 (G7104C, G7131A/C BIO)

Date Introduced:	Oct 2023
Revision:	7104C_B739_003, 7131A_B739_003, 7131C_B739_003, Res_B739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 49 - Pump Changes B.07.38[020] (G7104C, G7131A/C BIO)

Date Introduced:	Aug 2023
Revision:	7104C_B738_020, 7131A_B738_020, 7131C_B738_020
General:	
Bugfix:	• KPR 944783 Fixed that flow ramp up/down was not working correctly if set to small values below 1 ml/min². When the flow ramp up/down was set to small values, e.g. 0.1 ml/min² the actual ramp was wrong/extremely high. The flow changed immediately to the new value. This behavior is fixed now. Only firmware revision B.07.38 [003] was affected.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 50 - Pump Changes B.07.38 (G7104C, G7131A/C BIO)

Date Introduced:	May 2023
Revision:	7104C_B738_003, 7131A_B738_003, 7131C_B738_003, Res_B738_001
General:	See Core Changes B/D.07.38
Bugfix:	• KPR# 792824 G7116A valve switching issue during run Customer wanted to switch MCT valve by using time table automation during the run. This did not work with the quaternary pumps anymore since firmware revision B.07.27. The fix will re-enable this again in firmware revision B.07.38.
New Features:	• The range for flow ramp up/down now starts from 0.1 ml/min^2 (instead 1 ml/min^2).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 51 - Pump Changes B.07.37 (G7104C, G7131A/C BIO)

Date Introduced:	December 2022
Revision:	7104C_B737_002, 7131A_B737_002, 7131C_B737_002, Res_B737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• Implemented support for main boards with new chip set for stepper driver as old chip is no longer available (only for G71xx pump modules).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 52 - Pump Changes B.07.35 (G7104C, G7131A/C BIO)

Date Introduced:	December 2021
Revision:	7104C_B735_002, 7131A_B735_002, 7131C_B735_002, Res_B735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 53 - Pump Changes B.07.34 (G7104C)

Date Introduced:	June 2021
Revision:	7104C_B734_006, Res_B734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• Code supports the new module types G7131A and G7131C.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 54 - Pump Changes B.07.34 (G7131A/C BIO)

Date Introduced:	June 2021
Revision:	7131A_B734_006, 7131C_B734_006, Res_B734_006
General:	Initial Firmware for G7131A and G7131C
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Flexible Pump (G7104C)

Table 55 - Pump Changes B.07.33 (G7104C)

Date Introduced:	November 2020
Revision:	7104C_B733_003, Res_B733_003
General:	See Core Changes B/D.07.33
Bugfix:	• KPR# 458229 The range for the method parameter "low pressure limit" was wrongly limited to 1200 bar for pumps with maximum pressure higher than 1200 bar. Now the correct limits are used, up to the maximum pressure of the pump.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 56 - Pump Changes B.07.30 (G7104C)

Date Introduced:	May 2020
Revision:	7104C_B730_005, Res_B730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 248491 The pump shows 'not ready'-state until the desired degasser pressure has been reached. The pump gets ready, once the "not ready" limit of 150 mbar is reached or creates an error when new time-out of 16 minutes is reached. After being in 'ready'-

	state the pump goes into error if vacuum drops beyond error limit again. • KPR# 388914 Sporadically the internal pump leak rate test wrongly failed because of wrong parameter settings.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 57 - Pump Changes B.07.29 (G7104C)

Date Introduced:	Dec 2022
Revision:	7104C_B729_050
General:	Backward Compatibility release for FW B.07.2x decade
Bugfix:	• None
New Features:	• Implemented support for main boards with new chip set for stepper driver as old chip is no longer available (only for G71xx pump modules).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 58 - Pump Changes B.07.28 (G7104C)

Date Introduced:	December 2019
Revision:	7104C_B728_006, Res_B728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#348518 Pump now respects the flow ramp down parameter to ramp down the flow to the needed pressure for switching. This could result in a longer time for this period. To get same timing as before set ramp down parameter to maximum.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 59 - Pump Changes B.07.27 (G7104C)

Date Introduced:	June 2019
Revision:	7104C_B727_006, Res_B727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 60 - Pump Changes B.07.25 (G7104C)

Date Introduced:	October 2018
Revision:	7104C_B725_013, Res_B725_006
General:	See Core Changes B/D.07.25
Bugfix:	TeamTrack #031757 • Flow-ramp down occasionally did not finish if valve switch and 'FLOW 0' were close together.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 61 - Pump Changes B.07.23 (G7104C)

Date Introduced:	February 2018
Revision:	7104C_B723_009, Res_B723_009
General:	See Core Changes B/D.07.23
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 62 - Pump Changes B.07.20 (G7104C)

Date Introduced:	June 2017
Revision:	7104C_B720_007, Res_B720_002
General:	Initial FW for 1260 Infinity II Flexible Pump G7104C
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Iso - / Quat-Pump (G7110B, G7111A, G7111B, G5654A)

Table 63 - Pump Changes D.07.39 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	Oct 2023
Revision:	7110B_D739_003, 7111A_D739_003, 7111B_ D739_003, 5654A_ D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 64 - Pump Changes D.07.38 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	May 2023
Revision:	7110B_D738_001, 7111A_D738_001, 7111B_ D738_001, 5654A_ D738_001, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• Introduce the seal wash run mode to allow switching the seal wash periodic mode as known from the 1290 pumps. • Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 65 - Pump Changes D.07.37 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	December 2022
Revision:	7110B_D737_002, 7111A_D737_002, 7111B_ D737_002, 5654A_ D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 66 - Pump Changes D.07.36 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	March 2022
Revision:	7110B_D736_001, 7111A_D736_001, 7111B_ D736_001, 5654A_ D736_001
General:	
Bugfix:	• None
New Features:	• Adapt the implementation to also support internal degasser hardware units without EEPROM-chips (change of a degasser internal electronic component only).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 67 - Pump Changes D.07.35 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	December 2021
Revision:	7110B_D735_002, 7111A_D735_002, 7111B_ D735_002, 5654A_ D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None

New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 68 - Pump Changes D.07.34 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	June 2021
Revision:	7110B_D734_006, 7111A_D734_006, 7111B_ D734_006, 5654A_ D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• KPR#468699 Composition glitch fixed which could happen at 98.5% of a used channel.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 69 - Pump Changes D.07.33 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	November 2020
Revision:	7110B_D733_003, 7111A_D733_003, 7111B_ D733_003, 5654A_ D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 70 - Pump Changes D.07.30 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	May 2020
Revision:	7110B_D730_005, 7111A_D730_005, 7111B_ D730_005, 5654A_ D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 248492 The pump shows 'not ready'-state until the desired degasser pressure has been reached. The pump gets ready, once the "not ready" limit of 150 mbar is reached or creates an error when new time-out of 16 minutes is reached. After being in 'ready'-state the pump goes into error if vacuum drops beyond error limit again. • KPR# 248581 Adapt the pressure sensor reset command to allow automatic offset compensation. • KPR# 306521 In very rare cases the interpolation of a gradient, during analysis, can fail and lead to a gradient error.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 71 - Pump Changes D.07.29 (050) (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	May 2023
Revision:	7110B_D729_050, 7111A_D729_050, 7111B_ D729_050, 5654A_ D729_050

General:	Backward Compatibility release for FW D.07.2x decade (see also release of FW D.07.38)
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 72 - Pump Changes D.07.29 (040) (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	March 2022
Revision:	7110B_D729_040, 7111A_D729_040, 7111B_ D729_040, 5654A_ D729_040
General:	Backward Compatibility release for FW D.07.2x decade
Bugfix:	• None
New Features:	• Adapt the implementation to also support internal degasser hardware units without EEPROM-chips (change of a degasser internal electronic component only).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 73 - Pump Changes D.07.28 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	December 2019
Revision:	7110B_D728_006, 7111A_D728_006, 7111B_ D728_006, 5654A_ D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#278062 When there is no Pump-Valve-Cluster configured between a 1260 Pump and a low-pressure valve (solvent selector, 200 bar), system pressure was wrongly not limited down to 200 bar, but settings in Pressure Limit Cluster show "Autodetect" instead of "None". This is fixed, the limit of 200 bar is respected now.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 74 - Pump Changes D.07.27 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	June 2019
Revision:	7110B_D727_006, 7111A_D727_006, 7111B_ D727_006, 5654A_ D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 75 - Pump Changes D.07.25 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	October 2018
Revision:	7110B_D725_013, 7111A_D725_013, 7111B_ D725_013, 5654A_ D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• TeamTrack #030667 Store MCGV- and Inlet-/Outlet-Valve counter in FLASH now. Before counter values were lost with cold-start. •

New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 76 - Pump Changes D.07.24 (G7111A, G7111B)

Date Introduced:	April 2018
Revision:	7111A_D724_001, 7111B_ D724_001, Res_D723_009
General:	
Bugfix:	• None
New Features:	• TeamTrack #030781: New compatibility mode (“historic mode”) for the G7111A/B pumps implemented. The compatibility mode allows to let methods run as if running on older pumps G1311A/B (Implemented for G7111A/B only). Can be activated via Agilent Lab Advisor B.02.11 or B.02.10 updated via special FSA file).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 77 - Pump Changes D.07.23 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	February 2018
Revision:	7110B_D723_009, 7111A_D723_009, 7111B_ D723_009, 5654A_ D723_009, Res_D723_009
General:	See Core Changes B/D.07.23.
Bugfix:	• TeamTrack #030063: Changed the algorithm of the motor temperature observation. The change in the algorithm fixes that sporadically a wrong motor temperature error EE02042 (MOTOR_POWER_TOO_HIGH) was generated. • TeamTrack #029656: Corrected the error-behavior on low-pressure when minimum pressure was set to a value below 20 bar. • TeamTrack #028838: Fixed that the AIV and MCGV was not closed in case of pump-off (PUMP 0).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 78 - Pump Changes D.07.22 (G7111A, G7111B, G5654A)

Date Introduced:	August 2017
Revision:	7111A_D722_001, 7111B_ D722_001, 5654A_ D722_001, Res_D720_002
General:	
Bugfix:	• TeamTrack #029204: Blank out time of MCGV is too short to control reliable hardware. Changed behavior of blank out time (BOT). It is now dependent on the smallest portion of composition. BOT is always at least 2.5 ms and maximal 5 ms for flow rates up to 5 ml/min and 3.5 ms for flow rates above. • TeamTrack # 028837: Close MCGV when pump is switched off and when pump goes to error (leak detected and shutdown).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 79 - Pump Changes D.07.21 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	July 2017

Revision:	7110B_D721_001, 7111A_D721_001, 7111B_ D721_001, 5654A_ D721_001, Res_D721_002
General:	
Bugfix:	• TeamTrack #028973: Fixed that the command CBLT 0 was wrongly rejected with RE00502 in firmware revisions D.07.12 up to D.07.20. In the affected revisions, it was no longer possible to disable the compressibility compensation.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 80 - Pump Changes D.07.20 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	June 2017
Revision:	7110B_D720_007, 7111A_D720_007, 7111B_D720_007, 5654A_D720_007, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• TeamTrack #026323: Fixed that single loop setup in 2D-LC did no longer work.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 81 - Pump Changes D.07.14 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	April 2017
Revision:	7110B_D714_001, 7111A_D714_001, 7111B_D714_001, 5654A_D714_001, Res_D710_002
General:	
Bugfix:	• TeamTrack #028263: Fixed that the remote actual flow delivered wrong values. In analytical scale purification instruments this could have led to wrongly timed fraction collection or seemingly no fraction collection at all.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 82 - Pump Changes D.07.13 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	January 2017
Revision:	7110B_D713_002, 7111A_D713_002, 7111B_D713_002, 5654A_D713_002, Res_D710_002
General:	
Bugfix:	• TeamTrack #027369: Fixed that occasionally a module without seal-wash pump wrongly detected a seal-wash pump. • TeamTrack #027383: Fixed that module did only host one “hosted module”. Now the module can host three “hosted modules”.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 83 - Pump Changes D.07.12 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	December 2016
Revision:	7110B_D712_002, 7111A_D712_002, 7111B_D712_002, 5654A_D712_002, Res_D710_002
General:	See Core Changes B/D.07.12

Bugfix:	• TeamTrack #027285: Fixed that occasionally the module showed panic if the sum of rounded composition was greater than 100%. • TeamTrack #027286: Better algorithm forOQ/PV test implemented.
New Features:	• See Core Changes B/D.07.12
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 84 - Pump Changes D.07.11 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	October 2016
Revision:	7110B_D711_001, 7111A_D711_001, 7111B_D711_001, 5654A_D711_001, Res_D710_002
General:	
Bugfix:	• TeamTrack #026638: Fixed that the SSV occasionally did not switch after power-cycle.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 85 - Pump Changes D.07.10 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	October 2016
Revision:	7110B_D710_005, 7111A_D710_005, 7111B_D710_005, 5654A_D710_005, Res_D710_002
General:	
Bugfix:	• TeamTrack #026436: Fixed that the SSV occasionally switched to the wrong position after power-cycle. • TeamTrack #025089: Implemented better pump ripple calculation.
New Features:	• See Core Changes B/D.07.10
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 86 - Pump Changes D.07.02 (G7110B, G7111A, G7111B, G5654A)

Date Introduced:	May 2016
Revision:	7110B_D702_001, 7111A_D702_001, 7111B_D702_001, 5654A_D702_001, Res_D701_001
General:	Initial firmware for 1260 Infinity II Bio Quat Pump G5654A.
Bugfix:	• TeamTrack #024909: Corrected that system parameter for dead volume (DVOL) occasionally used wrong default value after power-cycle.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 87 - Pump Changes D.07.01 (G7110B, G7111A, G7111B)

Date Introduced:	May 2016
Revision:	7110B_D701_007, 7111A_D701_007, 7111B_D701_007, Res_B701_001
General:	Initial Revision
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Binary Pump (G1312B SL, G4302A SFC)

Table 88 - Pump Changes A.07.02 (G4302A SFC)

Date Introduced:	February 2017
Revision:	4302A_A702_005, Res_A701_001
General:	
Bugfix:	• None
New Features:	• No TeamTrack: The SFC-Binary pump G4302A offers the RemoteService "SFC-CbltAndPres" (for interacting with G4303A)
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 89 - Pump Changes A.07.01 (G1312B SL, G4302A SFC)

Date Introduced:	May 2016
Revision:	1312B_A701_001, 4302A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Binary Pump (G4220A, G4220B, G7120A, G7132A BIO)

Table 90 - Pump Changes B.07.39[020] (G4220A, G4220B, G7120A, G7132A)

Date Introduced:	March 2024
Revision:	4220A_B739_020, 4220B_B739_020, 7120A_B739_020, 7132A_B739_020
General:	
Bugfix:	• KPR 1044415 Changed RFID Reading Functionality and Frequency for Jet Weaver mixers to improve reliability of correct readings.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 91 - Pump Changes B.07.39 (G4220A, G4220B, G7120A, G7132A)

Date Introduced:	Oct 2023
Revision:	4220A_B739_003, 4220B_B739_003, 7120A_B739_003, 7132A_B739_003 , Res_B739_003
General:	See Core Changes B/D.07.39
Bugfix:	• KPR 946530 Fixed that valve was not switching in 2DLC Cluster when using context menu option. When using the "Switch Valve" function within the context menu of the 2DLC tile within OpenLab CDS Acquisition, the valves were not switched on the hardware side. This is fixed now.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 92 - Pump Changes B.07.38[020] (G4220A, G4220B, G7120A, G7132A)

Date Introduced:	Aug 2023
Revision:	4220A_B738_020, 4220B_B738_020, 7120A_B738_020, 7132A_B738_020
General:	
Bugfix:	• KPR 944783 Fixed that flow ramp up/down was not working correctly if set to small values below 1 ml/min². When the flow ramp up/down was set to small values, e.g. 0.1 ml/min² the actual ramp was wrong/extremely high. The flow changed immediately to the new value. This behavior is fixed now. Only firmware revision B.07.38 [002] was affected.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 93 - Pump Changes B.07.38 (G4220A, G4220B, G7120A, G7132A)

Date Introduced:	May 2023
Revision:	4220A_B738_002, 4220B_B738_002, 7120A_B738_002, 7132A_B738_002 , Res_B738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• The range for flow ramp up/down now starts from 0.1 ml/min^2 (instead 1 ml/min^2).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 94 - Pump Changes B.07.37 (G4220A, G4220B, G7120A, G7132A)

Date Introduced:	December 2022
Revision:	4220A_B737_002, 4220B_B737_002, 7120A_B737_002, 7132A_B737_002 , Res_B737_002
General:	See Core Changes B/D.07.37
Bugfix:	• KPR# 594114 In Full Comprehensive mode the cycle time has a time offset for a large number of cuts in a series (> 50 cuts) which then leads to shifted cuts in the UI. • KPR# 692092 Wrong cut size displayed in case of peak-based heart-cutting with a single loop setup: In case of the single sample loop configuration (one sample loop/one bypass capillary), peak-based heart-cutting results in having a cut size corresponding to 100% loop filling shown in the sampling table and the first dimension chromatogram, even if a smaller cut size has been defined in the acquisition method.
New Features:	• Implemented support for main boards with new chip set for stepper driver as old chip is no longer available (only for G71xx pump modules).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 95 - Pump Changes B.07.35 (G4220A, G4220B, G7120A, G7132A)

Date Introduced:	December 2021
Revision:	4220A_B735_003, 4220B_B735_003, 7120A_B735_003, 7132A_B735_003 , Res_B735_002
General:	See Core Changes B/D.07.35
Bugfix:	• KPR# 599920 Fixed that cut data was corrupted in all 2D-LC modes if no detector was configured and it was impossible to start any 2D-LC data analysis software on the generated result.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 96 - Pump Changes B.07.34 (G4220A, G4220B, G7120A, G7132A)

Date Introduced:	June 2021
Revision:	4220A_B734_006, 4220B_B734_006, 7120A_B734_006, 7132A_B734_006 , Res_B734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	Following feature implementations for 2DLC: • 2D-LC firmware now supports a procedure to flush all loops in any configuration. This allows to define a flushing factor for each loop and will run a flush gradient and equilibration on the last loop, after that all valves will switch back to default position. • Firmware now supports peak based operation for 2D-LC. This allows the user to configure up to four 1D-Peak-Detectors to

	trigger cut parking for MHC- and HiRes-Operation, FC does not support peak based mode. • Firmware now supports dynamic cut shifting feature in 2D-LC. This allows to define a "scouting" peak based cut as reference to determine a time shift for following time based cuts. • Firmware now supports the multi inject feature for 2D-LC. This allows to collect a cut in multiple loops but analyze the content of all loops with one gradient per deck. • Firmware now supports new 2D-LC bio capillaries for bio compatible operation with G7132A.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 97 - Pump Changes B.07.33 (G4220A, G4220B, G7120A)

Date Introduced:	November 2020
Revision:	4220A_B733_003, 4220B_B733_003, 7120A_B733_003, Res_B733_003
General:	See Core Changes B/D.07.33
Bugfix:	• KPR# 452430 The driver offers check boxes for selecting a solvent to be used for the solvent composition, if unchecked the solvent should not be used. This was not the case for the binary 1290 pumps, now this misbehavior is fixed. • KPR# 458229 The range for the method parameter "low pressure limit" was wrongly limited to 1200 bar for pumps with maximum pressure higher than 1200 bar. Now the correct limits are used, up to the maximum pressure of the pump.
New Features:	• Implemented support for the 2D-LC functionality offered in LC Drivers. • Code supports the new module type G7132A.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 98 - Pump Changes B.07.33 (G7132A BIO)

Date Introduced:	November 2020
Revision:	7132A_B733_003, Res_B733_003
General:	Initial Firmware for G7132A
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Binary Pump (G4220A, G4220B, G7120A)

Table 99 - Pump Changes B.07.30 (G4220A, G4220B, G7120A)

Date Introduced:	May 2020

Revision:	4220A_B730_005, 4220B_B730_005, 7120A_B730_005, Res_B730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 248491 The pump shows 'not ready'-state until the desired degasser pressure has been reached. The pump gets ready, once the "not ready" limit of 150 mbar is reached or creates an error when new time-out of 16 minutes is reached. After being in 'ready'-state the pump goes into error if vacuum drops beyond error limit again. • KPR# 388914 Sporadically the internal pump leak rate test wrongly failed because of wrong parameter settings.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 100 - Pump Changes B.07.29 (G7120A)

Date Introduced:	Dec 2022
Revision:	7120A_B729_051
General:	Backward Compatibility release for FW B.07.2x decade
Bugfix:	• None
New Features:	• Implemented support for main boards with new chip set for stepper driver as old chip is no longer available (only for G71xx pump modules).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 101 - Pump Changes B.07.28 (G4220A, G4220B, G7120A)

Date Introduced:	December 2019
Revision:	4220A_B728_006, 4220B_B728_006, 7120A_B728_006, Res_B728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#348518 Pump now respects the flow ramp down parameter to ramp down the flow to the needed pressure for switching. This could result in a longer time for this period. To get same timing as before set ramp down parameter to maximum.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 102 - Pump Changes B.07.27 (G4220A, G4220B, G7120A)

Date Introduced:	June 2019
Revision:	4220A_B727_006, 4220B_B727_006, 7120A_B727_006, Res_B727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 103 - Pump Changes B.07.25 (G4220A, G4220B, G7120A)

Date Introduced:	October 2018
Revision:	4220A_B725_013, 4220B_B725_013, 7120A_B725_013, Res_B725_006
General:	See Core Changes B/D.07.25
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 104 - Pump Changes B.07.23 (G4220A, G4220B, G7120A)

Date Introduced:	February 2018
Revision:	4220A_B723_009, 4220B_B723_009, 7120A_B723_009, Res_B723_009
General:	See Core Changes B/D.07.23
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 105 - Pump Changes B.07.21 (G4220A, G4220B, G7120A)

Date Introduced:	December 2017
Revision:	4220A_B721_002, 4220B_B721_002, 7120A_B721_002, Res_B720_002
General:	
Bugfix:	• TeamTrack #028633: Fixed that (multiple) heart-cutting occasionally did not park peaks precisely. Before this change the 'quick step' time has extended the sampling time for cuts which can be analyzed directly. In this case the cuts have been pumped partly out of the loop. Now the 'quick step' is triggered at the correct time leading to precise parking. • No TeamTrack: Improved tuning during valve switch.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 106 - Pump Changes B.07.20 (G4220A, G4220B, G7120A)

Date Introduced:	June 2017
Revision:	4220A_B720_007, 4220B_B720_007, 7120A_B720_007, Res_B720_002
General:	See Core Changes B/D.07.20
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 107 - Pump Changes B.07.10 (G4220A, G4220B, G7120A)

Date Introduced:	October 2016
Revision:	4220A_B710_004, 4220B_B710_004,7120A_B710_004, Res_B710_002
General:	
Bugfix:	• None
New Features:	• See Core Changes B/D.07.10

OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 108 - Pump Changes B.07.01 (G4220A, G4220B, G7120A)

Date Introduced:	May 2016
Revision:	4220A_B701_005, 4220B_B701_006,7120A_B701_006, Res_B701_001
General:	
Bugfix:	• None
New Features:	• See Core Changes B/D.07.01
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Binary Pump (G7112B, G4782A SFC)

Table 109 - Pump Changes D.07.39 (G7112B, G4782A SFC)

Date Introduced:	Oct 2023
Revision:	7112B_D739_003, 4782A_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 110 - Pump Changes D.07.38 (G7112B, G4782A SFC)

Date Introduced:	May 2023
Revision:	7112B_D738_002, 4782A_D738_002, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• Introduce the seal wash run mode to allow switching the seal wash periodic mode as known from the 1290 pumps. • Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 111 - Pump Changes D.07.37 (G7112B, G4782A SFC)

Date Introduced:	December 2022
Revision:	7112B_D737_002, 4782A_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 112 - Pump Changes D.07.36 (G7112B, G4782A SFC)

Date Introduced:	March 2022
Revision:	7112B_D736_001, 4782A_D736_001
General:	
Bugfix:	• None
New Features:	• Adapt the implementation to also support internal degasser hardware units without EEPROM-chips (change of a degasser internal electronic component only).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 113 - Pump Changes D.07.35 (G7112B, G4782A SFC)

Date Introduced:	December 2021
Revision:	7112B_D735_002, 4782A_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 114 - Pump Changes D.07.34 (G7112B, G4782A SFC)

Date Introduced:	June 2021
Revision:	7112B_D734_006, 4782A_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 115 - Pump Changes D.07.33 (G7112B, G4782A SFC)

Date Introduced:	November 2020
Revision:	7112B_D733_003, 4782A_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 116 - Pump Changes D.07.30 (G7112B, G4782A SFC)

Date Introduced:	May 2020
Revision:	7112B_D730_005, 4782A_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 248492 The pump shows 'not ready'-state until the desired degasser pressure has been reached. The pump gets ready, once the "not ready" limit of 150 mbar is reached or creates an error when new time-out of 16 minutes is reached. After being in 'ready'-state the pump goes into error if vacuum drops beyond error limit again. • KPR# 248581 Adapt the pressure sensor reset command to allow automatic offset compensation. • KPR# 306521 In very rare cases the interpolation of a gradient, during analysis, can fail and lead to a gradient error.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 117 - Pump Changes D.07.29 (050) (G7112B, G4782A SFC)

Date Introduced:	May 2023
Revision:	7112B_D729_050, 4782A_D729_050
General:	Backward Compatibility release for FW D.07.2x decade (see also release of FW D.07.38)
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 118 - Pump Changes D.07.29 (040) (G7112B, G4782A SFC)

Date Introduced:	March 2022

Revision:	7112B_D729_040, 4782A_D729_040
General:	Backward Compatibility release for FW D.07.2x decade
Bugfix:	• None
New Features:	• Adapt the implementation to also support internal degasser hardware units without EEPROM-chips (change of a degasser internal electronic component only).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 119 - Pump Changes D.07.28 (G7112B, G4782A SFC)

Date Introduced:	December 2019
Revision:	7112B_D728_006, 4782A_D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#278062 When there is no Pump-Valve-Cluster configured between a 1260 Pump and a low-pressure valve (solvent selector, 200 bar), system pressure was wrongly not limited down to 200 bar, but settings in Pressure Limit Cluster show "Autodetect" instead of "None". This is fixed, the limit of 200 bar is respected now
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 120 - Pump Changes D.07.27 (G7112B, G4782A SFC)

Date Introduced:	June 2019
Revision:	7112B_D727_006, 4782A_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 121 - Pump Changes D.07.25 (G7112B, G4782A SFC)

Date Introduced:	October 2018
Revision:	7112B_D725_013, 4782A_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• TeamTrack #030667 Store MCGV- and Inlet-/Outlet-Valve counter in FLASH now. Before counter values were lost with cold-start.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 122 - Pump Changes D.07.23 (G7112B, G4782A SFC)

Date Introduced:	February 2018
Revision:	7112B_D723_009, 4782A_D723_009, Res_D723_009
General:	See Core Changes B/D.07.23
Bugfix:	• TeamTrack #030063: Changed the algorithm of the motor temperature observation. The change in the algorithm fixes that sporadically a wrong motor temperature error EE02042 (MOTOR_POWER_TOO_HIGH) was generated.

	• TeamTrack #029656: Corrected the error-behavior on low-pressure when minimum pressure was set to a value below 20 bar. • TeamTrack #028838: Fixed that the AIV was not closed in case of pump-off (PUMP 0).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 123 - Pump Changes D.07.20 (G7112B, G4782A SFC)

Date Introduced:	June 2017
Revision:	7112B_D720_007, 4782A_D720_007, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• TeamTrack #027832: Fixed that under very special conditions a pressure limit of 800 bar could be exceeded during the run.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 124 - Pump Changes D.07.16 (G7112B, G4782A SFC)

Date Introduced:	April 2017
Revision:	7112B_D716_001, 4782A_D716_001, Res_D710_002
General:	
Bugfix:	• TeamTrack #027834: Fixed that module occasionally stayed offline in 3rd-party controller software after firmware-update to revision D.07.15 or D.07.16. • TeamTrack #027985: G4767A SFC-Sampler only: If the feed speed parameter was set to a value lower than 100 ul/min, a faster speed was wrongly used (approx. 100 ul/min).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 125 - Pump Changes D.07.15 (G7112B, G4782A SFC)

Date Introduced:	February 2017
Revision:	7112B_D715_001, 4782A_D715_001, Res_D710_002
General:	Initial firmware for G4782A Binary Pump SFC
Bugfix:	• TeamTrack #027383: Fixed that module did only host one “hosted module”. Now the module can host three “hosted modules”.
New Features:	• Code supports the new module type G4782A Binary Pump SFC.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 126 - Pump Changes D.07.10 (G7112B)

Date Introduced:	October 2016
Revision:	7112B_D710_006, Res_D710_002
General:	Initial firmware for G7112B Binary Pump
Bugfix:	• None
New Features:	• See Core Changes B/D.07.10
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Binary Prep Pump (G7161A, G7161B)

Table 127 - Infinity II Binary Prep Pump Changes D.07.39 (G7161A, G7161B)

Date Introduced:	Oct 2023
Revision:	7161A_D739_003, 7161B_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 128 - Infinity II Binary Prep Pump Changes D.07.38 (G7161A, G7161B)

Date Introduced:	May 2023
Revision:	7161A_D738_001, 7161B_D738_001, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 129 - Infinity II Binary Prep Pump Changes D.07.37 (G7161A, G7161B)

Date Introduced:	December 2022
Revision:	7161A_D737_002, 7161B_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• KPR# 717832 The final reported leak rate was 10 times to big and is now corrected.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 130 - Infinity II Binary Prep Pump Changes D.07.35 (G7161A, G7161B)

Date Introduced:	December 2021
Revision:	7161A_D735_002, 7161B_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 131 - Infinity II Binary Prep Pump Changes D.07.34 (G7161A, G7161B)

Date Introduced:	June 2021
Revision:	7161A_D734_006, 7161B_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• KPR# 463743 Improvements for the leak test procedure to preserve better results.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 132 - Infinity II Binary Prep Pump Changes D.07.33 (G7161A, G7161B)

Date Introduced:	November 2020

Revision:	7161A_D733_003, 7161B_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 133 - Infinity II Binary Prep Pump Changes D.07.30 (G7161A, G7161B)

Date Introduced:	May 2020
Revision:	7161A_D730_005, 7161B_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 134 - Infinity II Binary Prep Pump Changes D.07.28 (G7161A, G7161B)

Date Introduced:	December 2019
Revision:	7161A_D728_006, 7161B_D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#278062 When there is no Pump-Valve-Cluster configured between a G7161A pump and a low-pressure valve (solvent selector, 200 bar), system pressure was wrongly not limited down to 200 bar, but settings in Pressure Limit Cluster show "Autodetect" instead of "None". This is fixed, the limit of 200 bar is respected now. • KPR#348518 Pump now respects the flow ramp down parameter to ramp down the flow to the needed pressure for switching. This could result in a longer time for this period. To get same timing as before set ramp down parameter to maximum.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 135 - Infinity II Binary Prep Pump Changes D.07.27 (G7161A, G7161B)

Date Introduced:	June 2019
Revision:	7161A_D727_006, 7161B_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	• KPR#248957 Fixed that valve switch was occasionally done regardless that system pressure was above the valve max. switching pressure. • KPR#283803 Improved the pressure signal quality.
New Features:	• KPR#269599 Change the minimal settable flow-limit from 5 ml/min to 3 ml/min for the remote service "MaxFlowLimit".
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 136 - Infinity II Binary Prep Pump Changes D.07.26 (G7161A, G7161B)

Date Introduced:	January 2019

Revision:	7161A_D726_002, 7161B_D726_002, Res_D725_006
General:	
Bugfix:	• KPR #264938 Fixes that the flow is dropping when changing time table entries for flow value during the run.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 137 - Infinity II Binary Prep Pump Changes D.07.25 (G7161A, G7161B)

Date Introduced:	October 2018
Revision:	7161A_D725_013, 7161B_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• TeamTrack #032212 Fixed interpolation problems when handling timetable changes downloaded during run.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 138 - Infinity II Binary Prep Pump Changes D.07.24 (G7161A, G7161B)

Date Introduced:	September 2018
Revision:	7161A_D724_001, 7161B_D724_001, Res_D723_009
General:	
Bugfix:	• TeamTrack #031757 Fixed that flow-ramp down occasionally did not finish if valve switch and 'FLOW 0' were close together. • TeamTrack #030614 Reverted to FRDW/FRUP valve switch flow ramp. Flow-ramps down to zero at current value of FRDW and -ramps up after switching at current value of FRDW. Flow reduction / restore ramps are adjusted dynamically if values of FRDW and FRUP are changed during these phases. Also changed default values for FRUP and FRDW to 600 to reduce valve switching time. (only for G7161A, already in D.07.23 for G7161B).
New Features:	• TeamTrack #031582 Modified G7161X pressure filter algorithm to provide a comparable ripple signal to the one used with G1361A. • TeamTrack #030147 Bottle empty error handling behavior is now as desired and is consistent across all 4 solvent bottles. (only for G7161A, already in D.07.23 for G7161B). • No TeamTrack Implemented a feature to protect the pump against running 'empty' at high flow for extended periods. This will prevent damage to seals and reduce heating of the shunt regulator PCA. Protection is triggered if flow is 150 ml/min or higher and pressure is below 20 bar for 1 minute. Flow is reduced to 50.01 ml/min when the protection mechanism is initiated but the composition is not changed. This is implemented on a per-channel basis for compatibility with independent-channel operation. For normal binary configuration both channel pressures are the same.

	To clear the protection flow reduction the user must either set flow for that channel at or below 50 ml/min or the user can send pump 0. The status LED on the pump shows yellow while the flow reduction is in force and a state change EV is sent when the flow reduction is applied or cleared. On ChemStation the yellow status bar shows Not Ready with hover-over condition Flow Limit and the extended module tile in the Dashboard displays the source of the limit as 'Protect'. (only for G7161A, was already implemented in D.07.23 for G7161B).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 139 - Infinity II Binary Prep Pump Changes D.07.23 (G7161B)

Date Introduced:	March 2018
Revision:	7161B_D723_017, Res_D723_009
General:	Initial firmware
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 140 - Infinity II Binary Prep Pump Changes D.07.23 (G7161A)

Date Introduced:	February 2018
Revision:	7161A_D723_009, Res_D723_009
General:	See Core Changes B/D.07.23
Bugfix:	• No TeamTrack: Prevented spurious seal wash no-bubble errors.
New Features:	• Clustered valve switch now causes flow reduction to zero & recovery at lowest of FRUP or FRDW.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 141 - Infinity II Binary Prep Pump Changes D.07.21 (G7161A)

Date Introduced:	November 2017
Revision:	7161A_D721_001, Res_D720_002
General:	
Bugfix:	• TeamTrack #029589: Fixed that method changes during run occasionally led to unwanted 'pump off'.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 142 - Infinity II Binary Prep Pump Changes D.07.20 (G7161A)

Date Introduced:	August 2017
Revision:	7161A_D720_018, Res_D720_002
General:	Initial firmware
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Prep Pump (G1361A)

Table 143 - Pump Changes A.07.01 (G1361A)

Date Introduced:	May 2016
Revision:	1361A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Capillary Pump (G1376A, G2226A)

Table 144 - Pump Changes A.07.01 (G1376A, G2226A)

Date Introduced:	May 2016
Revision:	1376A_A701_001, 2226A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Sampler Firmware Changes

Standard Autosampler (G1313A, G1329A, G1329B, G1389A, G2260A, G4303A SFC)

Table 145 - Autosampler Changes A.07.02 (G1313A, G1329A, G1329B, G1389A, G2260A, G4303A SFC)

Date Introduced:	January 2017
Revision:	1313A_A702_005, 1329A_A702_005, 1329B_A702_005, 1389A_A702_005, 2260A_A702_005, 4303A_A702_005, Res_A701_001
General:	
Bugfix:	• TeamTrack #026031, #027021: Fixed reading of type and serial number of cooler (G1330B). Before it was occasionally possible to read invalid characters leading in rare cases to a crash of the LC driver.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 146 - Autosampler Changes A.07.01 (G1313A, G1329A, G1329B, G1389A, G2260A, G4303A SFC)

Date Introduced:	May 2016
Revision:	1361A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

High Performance Autosampler (G1367A/E, G1377A, G2258A, G4226A, G5667A)

Table 147 - High Performance Autosampler Changes A.07.02 (G1367A/E, G1377A, G2258A, G4226A, G5667A)

Date Introduced:	January 2017
Revision:	1367A_A702_005, 1367B_A702_005, 1367C_A702_005, 1367D_A702_005, 1367E_A702_005, 1377A_A702_005, 2258A_A702_005, 4226A_A702_005, 5667A_D702_005, Res_A701_001
General:	
Bugfix:	• TeamTrack #026031, #027021: Fixed reading of type and serial number of cooler (G1330B). Before it was occasionally possible to read invalid characters leading in rare cases to a crash of the LC driver.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 148 - High Performance Autosampler Changes A.07.01 (G1367A/E, G1377A, G2258A, G4226A, G5667A)

Date Introduced:	May 2016
Revision:	1367A_A701_001, 1367B_A701_001, 1367C_A701_001, 1367D_A701_001, 1367E_A701_001, 1377A_A701_001, 2258A_A701_001, 4226A_A701_001, 5667A_D701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01. • TeamTrack #018705, #018798: Fixed that method parameter for working-loop (WLOP) is now executed when method is loaded. • TeamTrack #020617: Fixed that sampler sporadically showed error event “valve switching failed”.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Fraction Collector (G1364A, G1364B, G1364C, G1364D, G5664A)

Table 149 - Fraction Collector Changes A.07.02 (G1364A, G1364B, G1364C, G1364D, G5664A)

Date Introduced:	January 2017
Revision:	1364A_A702_005, 1364B_A702_005, 1364C_A702_005, 1364D_A702_005, 5664A_A702_005, Res_A701_001
General:	
Bugfix:	• TeamTrack #026031, #027021: Fixed reading of type and serial number of cooler (G1330B). Before it was occasionally possible to read invalid characters leading in rare cases to a crash of the LC driver.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 150 - Fraction Collector Changes A.07.01 (G1364A, G164B, G1364C, G1364D, G5664A)

Date Introduced:	May 2016
Revision:	1364A_A701_001, 1364B_A701_001, 1364C_A701_001, 1364D_A701_001, 5664A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Sampler (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Table 151 - Sampler Changes D.07.39 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	Oct 2023
Revision:	7129A_D739_003, 7129B_D739_003, 7129C_D739_003, 7157A_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 152 - Sampler Changes D.07.38 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	May 2023
Revision:	7129A_D738_001, 7129B_D738_001, 7129C_D738_001, 7157A_D738_001, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 153 - Sampler Changes D.07.37 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	December 2022
Revision:	7129A_D737_002, 7129B_D737_002, 7129C_D737_002, 7157A_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• Support modules with new sample thermostat (P/N G7167-60201). • Improved hardware error reporting by adding parameter-values to error-event EE 30751.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 154 - Sampler Changes D.07.36 (G7129A VS)

Date Introduced:	August 2022
Revision:	7129A_D736_001
General:	G7129A only
Bugfix:	• KPR# 695005 Increase the current for injection valve switching to have more reliability if hardware shows manufacturing tolerances.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 155 - Sampler Changes D.07.35 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	December 2021
Revision:	7129B_D735_002, 7129A_D735_002, 7129C_D735_002, 7157A_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35

Bugfix:	• KPR# 587734 Implemented a fix for the following issue: The MIX MAXIMUM VOLUME injector program command did not calculate the maximum volume correctly if there was already a sample in the loop. As a result the mix command was wrongly aborted with event EE 34318, 0.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 156 - Sampler Changes D.07.34 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	June 2021
Revision:	7129B_D734_006, 7129A_D734_006, 7129C_D734_006, 7157A_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• G7157A Only: Support new multi-draw seat capillary with 4500 ul injection volume.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 157 - Sampler Changes D.07.33 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	November 2020
Revision:	7129B_D733_003, 7129A_D733_003, 7129C_D733_003, 7157A_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• KPR# 430852 Some thermostats might not maintain the set vial temperature if operated at a setpoint of 4 ° C for an extended time. In such a case, the vial temperature could start drifting towards higher temperatures after a couple of days or weeks of continuous operation. This firmware addresses this potential problem.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 158 - Sampler Changes D.07.30 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	May 2020
Revision:	7129B_D730_005, 7129A_D730_005, 7129C_D730_005, 7157A_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 375512 In very special situations, when removing one tray in mixed tray configurations (numeric/carthesic), it might have happened that the vial sampler was injecting from the wrong vial location. This is fixed now and an error event is sent, if the vial position does not fit to the installed tray. • KPR# 395701 Enhanced the reliability of the transport assembly movements and reduce the system's susceptibility to problems like frequently bent needle and blocked transport arm.

New Features:	• If turn around times (from injection to next injection) are too high and overlapped injection is not an option, the new option “instant prefetch vial” is implemented. With "instant" prefetch vial, the sampler will not wait until all other devices are ready before it starts with the preparation of the injection. In this mode the sampler will start fetching the vial as soon as possible even when other devices are not ready yet.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 159 - Sampler Changes D.07.29 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	May 2023
Revision:	7129A_D729_050, 7129B_D729_050, 7129C_D729_050, 7157A_D729_050
General:	Backward Compatibility release for FW D.07.2x decade (see also release of FW D.07.38)
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 160 - Sampler Changes D.07.28 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	December 2019
Revision:	7129B_D728_006, 7129A_D728_006, 7129C_D728_006, 7157A_D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 161 - Sampler Changes D.07.27 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	June 2019
Revision:	7129B_D727_006, 7129A_D727_006, 7129C_D727_006, 7157A_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 162 - Sampler Changes D.07.26 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	December 2018
Revision:	7129B_D726_001, 7129A_D726_001, 7129C_D726_001, 7157A_D726_001, Res_D725_006
General:	
Bugfix:	• KPR#253202 Fixed that the module sporadically needed a very long startup-time (up to 30 minutes) after power-on with FW revisions D.07.23 or D.07.25.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 163 - Sampler Changes D.07.25 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	October 2018
Revision:	7129B_D725_013, 7129A_D725_013, 7129C_D725_013, 7157A_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 164 - Sampler Changes D.07.23 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	February 2018
Revision:	7129B_D723_009, 7129A_D723_009, 7129C_D723_009, 7157A_723_009, Res_D723_009
General:	See Core Changes B/D.07.23.
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 165 - Sampler Changes D.07.21 (G7129A VS, G7129B AS, G7129C VS, G7157A Prep AS)

Date Introduced:	December 2017
Revision:	7129B_D722_031, 7129A_D722_031, 7129C_D722_031, 7157A_722_031, Res_D720_002
General:	
Bugfix:	• None
New Features:	• No TeamTrack: Implemented support for new CERS thermostat hardware.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 166 - Sampler Changes D.07.21 (G7129A VS, G7129B AS, G7129C VS)

Date Introduced:	November 2017
Revision:	7129B_D721_002, 7129A_D721_002, 7129C_D721_002, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• TeamTrack #029573: Fixed occasionally occurring blocking of the Z-axis lead to over-temperature.
New Features:	• Implemented better condensate sensor algorithm.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 167 - Sampler Changes D.07.20 (G7129A VS, G7129B AS, G7129C VS)

Date Introduced:	June 2017
Revision:	7129B_D720_007, 7129A_D720_007, 7129C_D720_007, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• None
New Features:	• Support multi draw capillary G7129-60083 with maximum injection volume size of 2700 µl. • Support of the new module type G7129C (800 bar Sampler).

OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 168 - Sampler Changes D.07.12 (G7129A VS, G7129B AS)

Date Introduced:	December 2016
Revision:	7129B_D712_002, 7129A_D712_002, Res_D710_002
General:	See Core Changes B/D.07.12
Bugfix:	• TeamTrack #027154: Fixed that valve switching failed sometimes by increasing the current for the injection valve.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 169 - Sampler Changes D.07.10 (G7129A VS, G7129B AS)

Date Introduced:	October 2016
Revision:	7129B_D710_004, 7129A_D710_004, Res_D710_002
General:	
Bugfix:	• TeamTrack #026285: Reduced fan speed because module was too loud. • TeamTrack #025785: Changed the 'remove gripper arm' procedure: before moving the theta arm to the change gripper position it is necessary to move the transport to the middle x position of the module.
New Features:	• See Core Changes B/D.07.10
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 170 - Sampler Changes D.07.02 (G7129A VS, G7129B AS)

Date Introduced:	August 2016
Revision:	7129B_D702_001, 7129A_D702_001, Res_D701_001
General:	
Bugfix:	• TeamTrack #025986: Avoid motor over temperature failure by switching off motor current in target position. • TeamTrack #025965: Better valve switching control to avoid metering home problems.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 171 - Sampler Changes D.07.01 (G7129A VS, G7129B AS)

Date Introduced:	May 2016
Revision:	7129B_D701_005, 7129A_D701_005, Res_D701_001
General:	
Bugfix:	• See Core Changes B/D.07.01.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G7137A BIO, G4767A SFC)

Table 172 – SFC Multisampler only D.07.39[020] (G4767A SFC)

Date Introduced:	March 2024
Revision:	4767A_D739_020
Comment:	
Bugfix:	• KPR#1026980 Implemented Fixed unwanted abort in SFC-Feed-mode. The issue only occurred if the sampler G4767A was used with the SFC-Feed-mode. After drawing the sample and before the injection of the sample is done, the sample is compressed by moving the metering device. The target pressure was not reached, and the analysis was aborted with following error event: "EE25238 - SFC-Mode: The target pressure could not be reached with the compress move". The injection was therefore not completed successfully. This is fixed now and the SFC-feed-injection can be carried out correctly again.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 173 – SFC Multisampler only D.07.39 (G4767A SFC)

Date Introduced:	Dec 2023
Revision:	4767A_D739_003
Comment:	Do not use D.07.39 on the G4767A SFC Multisampler as this could generate an error (KPR #1026980): ***If the SFC-Feed-mode is selected, the error event EE 25238 "SFC-Mode: The target pressure could not be reached with the compress move" occurs.*** **Workaround: use FW D.07.38 on the G4767A SFC Multisampler instead.**
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 174 – Multisampler Changes D.07.39 (G7167A, G7167B, G5668A BIO, G7137A Bio, G4767A SFC)

Date Introduced:	Oct 2023
Revision:	7167A_D739_003, 7167B_D739_003, 4767A_D739_003, 5668A_D739_003, 7137A_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• Implement support for new hydraulic box with DMSSV (dual mix solvent selection valve, G3167-68601). • Code supports the new module type G3167B.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 175 – Multisampler Changes D.07.38 (G7167A, G7167B, G5668A BIO, G7137A Bio, G4767A SFC)

Date Introduced:	May 2023
Revision:	7167A_D738_003, 7167B_D738_003, 4767A_D738_003, 5668A_D738_003, 7137A_D738_003, Res_D738_001

General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• Better adaption of sensor limits for detection of drawers. • Improved the piercing of the vial septa with the needle. This might prevent from misleading wrong reported 'Needle hit the vessel bottom' (25226) errors. • Washport referencing within auto-referencing is no longer active by default. • Implement support for new main boards with new board revision. • Code supports the new module types G7167C.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 176 – Multisampler Changes D.07.37 (G7167A, G7167B, G5668A BIO, G7137A Bio, G4767A SFC)

Date Introduced:	December 2022
Revision:	7167A_D737_002, 7167B_D737_002, 4767A_D737_002, 5668A_D737_002, 7137A_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• Support modules with new sample thermostat (P/N G7167-60201). • Improved hardware error reporting by adding parameter-values to error-event EE 30751.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 177 – Multisampler Changes D.07.35 (G7167A, G7167B, G5668A BIO, G7137A Bio, G4767A SFC)

Date Introduced:	December 2021
Revision:	7167B_D735_002, 7167A_D735_002, 4767A_D735_002, 5668A_D735_002, 7137A_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• KPR# 587608 Implemented a fix for the following issue: The MIX MAXIMUM VOLUME injector program command could occasionally move the metering device without considering the sample volume drawn. This could have led to sample loss.
New Features:	• Increased max. well-volume for SBS-plate-object from 100 ml to 2000 ml.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 178 – Multisampler Changes D.07.34 (G7167A, G7167B, G5668A BIO, G7137A Bio, G4767A SFC)

Date Introduced:	June 2021
Revision:	7167B_D734_006, 7167A_D734_006, 4767A_D734_006, 5668A_D734_006, 7137A_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• Code supports the new module types G3167A
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 179 – Multisampler Changes D.07.33 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	November 2020
Revision:	7167B_D733_003, 7167A_D733_003, 4767A_D733_003, 5668A_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• KPR# 430852 Some thermostats might not maintain the set vial temperature if operated at a setpoint of 4 ° C for an extended time. In such a case, the vial temperature could start drifting towards higher temperatures after a couple of days or weeks of continuous operation. This firmware addresses this potential problem.
New Features:	• Code supports the new module type G7137A
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 180 – Multisampler Changes D.07.33 (G7137A)

Date Introduced:	November 2020
Revision:	7137A_D733_003, Res_D733_003
General:	Initial Firmware for G7137A
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Multisampler (G7167A, G7167B, G5668A BIO, G4767A SFC)

Table 181 – Multisampler Changes D.07.32 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	July 2020
Revision:	7167B_D732_001, 7167A_D732_001, 4767A_D732_001, 5668A_D732_001, Res_D730_005
General:	
Bugfix:	• KPR# 437745 Improve the transport offsets which were used in revision D.07.30 and D.07.31. Now, a larger variation of the hardware components are covered.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 182 – Multisampler Changes D.07.31 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	June 2020
Revision:	7167B_D731_001, 7167A_D731_001, 4767A_D731_001, 5668A_D731_001, Res_D730_005
General:	
Bugfix:	• KPR# 423974 Improve the needle's hitting precision into the wash port by adding a separate auto referencing for it. This prevents from sporadically occurring needle bent and possible consecutive needle-seat damage.

New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 183 – Multisampler Changes D.07.30 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	May 2020
Revision:	7167B_D730_005, 7167A_D730_005, 4767A_D730_005, 5668A_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR#397954 Improved needle's hitting precision.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 184 – Multisampler Changes D.07.29 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	May 2023
Revision:	7167A_D729_050, 7167B_D729_050, 4767A_D729_050, 5668A_D729_050
General:	Backward Compatibility release for FW D.07.2x decade (see also release of FW D.07.38)
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 185 – Multisampler Changes D.07.28 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	December 2019
Revision:	7167B_D728_006, 7167A_D728_006, 4767A_D728_006, 5668A_D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#314398 Customer can define their own injector program. In the injector program a metering eject command can be added. The speed for ejecting can be set directly in the command or the method parameter metering eject speed can be used. Through the issue the method parameter metering draw speed was taken instead of the method parameter eject speed. • KPR#314947 Many Multisampler generated an unexpected sound if the initialization was done with a fetched needle which is located in the park station. The needle was not released smoothly from the transport and generated this sound. The change makes sure that the needle release within module initialization procedure is done smoothly.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 186 – Multisampler Changes D.07.27 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	June 2019
Revision:	7167B_D727_006, 7167A_D727_006, 4767A_D727_006,

	5668A_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 187 – Multisampler Changes D.07.26 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	January 2019
Revision:	7167B_D726_001, 7167A_D726_001, 4767A_D726_001, 5668A_D726_001, Res_D725_006
General:	
Bugfix:	• KPR#269064 Fixes occurrence of “Transport motor index missing” error (EE 25235) during initialization after module restart when needle was in needle park station. • KPR#269063 Fixes occurrence of “Axis did not reach its target position in time” error (EE 25151) during hotel auto-referencing.
New Features:	• Added injector program command “Draw from seat” in standard configuration
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 188 – Multisampler Changes D.07.25 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	October 2018
Revision:	7167B_D725_013, 7167A_D725_013, 4767A_D725_013, 5668A_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• TeamTrack # 29596 If the ULD seat G4267-87020 is installed sometimes an error occurred while the seat back flushing was running. The error reported that the flush pump was blocked. The reduction of the flow rate will improve the situation. Because of this the flush pump eject speed is reduced if the ULD G4267-87020 is installed.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 189 – Multisampler Changes D.07.24 (G4767A SFC)

Date Introduced:	April 2018
Revision:	4767A_D724_001, Res_D723_009
General:	
Bugfix:	• None.
New Features:	• TeamTrack #030739: Code changed to support up to 800 bar (G4767A only).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 190 – Multisampler Changes D.07.23 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	February 2018

Revision:	7167B_D723_009, 7167A_D723_009, 4767A_D723_009, 5668A_D723_009, Res_D723_009
General:	See Core Changes B/D.07.23
Bugfix:	• TeamTrack #029944: A fix was implemented for the purge procedure of the DualNeedle sampler: The sampler is linked with a pump. The pump triggers the purge procedure of the sampler if the composition or SSV settings are changed. Every change sends a separate purge request and if necessary the sampler restart the purge procedure. Within this purge restart the sampler show 'Ready' for a short time and become 'NotReady' again immediately. Within this gap the driver could send the STRT-command. This start has been rejected by the sampler because the module is now 'NotReady' again. With this change the module stays in 'NotReady' the complete time even if the purge procedure is retriggered.
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 191 – Multisampler Changes D.07.22 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	December 2017
Revision:	7167B_D722_031, 7167A_D722_031, 4767A_D722_031, 5668A_D722_031, Res_D720_002
General:	
Bugfix:	• None
New Features:	• No TeamTrack: Implemented support for new CERS thermostat hardware.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 192 – Multisampler Changes D.07.21 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	November 2017
Revision:	7167B_D721_002, 7167A_D721_002, 4767A_D721_002, 5668A_D721_002, Res_D720_002
General:	
Bugfix:	• TeamTrack #029561: Fixed occasionally occurring 'motor high current' error when needle is clamped from the park station for a longer time.
New Features:	• Implemented better condensate sensor algorithm.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 193 – Multisampler Changes D.07.20 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	June 2017
Revision:	7167B_D720_008, 7167A_D720_008, 4767A_D720_008, 5668A_D720_008, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• TeamTrack #028846: Fixed that different modules (mainly pumps) occasionally stayed offline in 3rd-party controller software after firmware-update for the G5668A to revision D.07.15, D.07.16 or D.07.17 (G5668A only). • TeamTrack #028828: Fixed Draw Command Aborted Error: Sometimes the needle move into a vial failed and an error has been generated. The needle stuck within the septa and the move could not be done.

New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 194 – Multisampler Changes D.07.17 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	March 2017
Revision:	7167B_D717_002, 7167A_D717_002, 4767A_D717_002, 5668A_D717_002, Res_D710_002
General:	
Bugfix:	• TeamTrack #027834: Fixed that modules occasionally stayed offline in 3rd-party controller software after firmware-update to revision D.07.15 or D.07.16. This means different modules (mainly pumps) could stay offline if FW D.07.15 or D.07.16 was used on the MLS. • TeamTrack #027985: G4767A SFC-Sampler only: If the feed speed parameter was set to a value lower than 100 µ/min, a faster speed was wrongly used (approx. 100 µl/min).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 195 – Multisampler Changes D.07.16 (G7167A, G7167B, G5668A BIO, G4767A SFC)

Date Introduced:	February 2017
Revision:	7167B_D716_001, 7167A_D716_001, 4767A_D716_001, 5668A_D716_001, Res_D710_002
General:	
Bugfix:	• TeamTrack #027745: Fixed that last released firmware revision D.07.15 could not read RFID tags of upcoming, future valves.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 196 – Multisampler Changes D.07.15 (G4767A SFC)

Date Introduced:	February 2017
Revision:	4767A_D715_002, Res_D710_002
General:	Initial Firmware for G4767A SFC
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 197 – Multisampler Changes D.07.15 (G7167A, G7167B, G5668A BIO)

Date Introduced:	January 2017
Revision:	7167B_D715_001, 7167A_D715_001, 5668A_D716_001, Res_D710_002
General:	
Bugfix:	• None
New Features:	• No TeamTrack: Implemented two new injector program commands “eject into seat” and “draw/eject from/to position with Plate offset”.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 198 – Multisampler Changes D.07.10 (G7167A, G7167B, G5668A BIO)

Date Introduced:	October 2016
Revision:	7167B_D710_004, 7167A_D710_004, 5668A_D710_004, Res_D710_002
General:	
Bugfix:	• None
New Features:	• See Core Changes B/D.07.10
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 199 – Multisampler Changes D.07.02 (G7167A, G7167B, G5668A BIO)

Date Introduced:	May 2016
Revision:	7167B_D702_001, 7167A_D702_001, 5668A_D702_001, Res_D701_001
General:	Initial firmware for 1260 Infinity II Bio Multisampler G5668A
Bugfix:	• Teamtrack #024912: Made needle auto-referencing more robust concerning hardware tolerances.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 200 – Multisampler Changes D.07.01 (G7167A, G7167B)

Date Introduced:	May 2016
Revision:	7167B_D701_006, 7167A_D701_006, Res_D701_001
General:	
Bugfix:	• See Core Changes B/D.07.01 • No TeamTrack: Fixed that the start of the service mode failed if a needle was fetched and located in the park station.
New Features:	• No TeamTrack: Send additional error event if index or tag data of a transport motor is missing. The error event gives CEs more information why a transport initialization has failed. • No TeamTrack: Code supports the new module type G5668A
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Hybrid Multisampler (G7167C)

Table 201 – Multisampler Changes D.07.39 (G7167C)

Date Introduced:	Oct 2023
Revision:	7167C_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• Implement support for new hydraulic box with DMSSV (dual mix solvent selection valve, G3167-68601). • Code supports the new module type G3167B.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 202 – Multisampler Changes D.07.38 (G7167C)

Date Introduced:	May 2023
Revision:	7167C_D738_003, Res_D738_001
General:	Initial Firmware for G7167C
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Fraction Collector (G1364E, G1364F, G5664B)

Table 203 - Infinity II Fraction Collector Changes D.07.39 (G1364E, G1364F, G5664B)

Date Introduced:	Oct 2023
Revision:	1364E_D739_003, 1364F_D739_003, 5664B_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• KPR# 799598 The following problem occurred only if a 'delay volume calibration' was executed and the following analysis was using the fraction mode "Next position". By running a 'delay volume calibration' the 'Last Used Position' was set to an invalid value. If the next analysis was using the fraction mode "Next Position" the error (EE 4958 - no valid next position) occurred. The change now ensures that the 'Last Used Position' is not changed by the 'delay volume calibration'. • KPR# 944263 The following problem occurred only if fraction mode pooling was used. A sequence contained multiple injections of the same sample with the intent to pool the collected fractions. The first run gave an absolute start location for the fractions, all other runs are set to Pooling. If the first run did not collect any fractions, the pooling of the following runs referred to the fraction start location of the last run before this sequence (or the first available fraction location on the fraction bed). The change now ensures that the correct start position is used.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 204 - Infinity II Fraction Collector Changes D.07.38 (G1364E, G1364F, G5664B)

Date Introduced:	May 2023
Revision:	1364E_D738_001, 1364F_D738_001, 5664B_D738_001, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• KPR# 742868 The following problem occurred only when using a fraction collector cluster. The first fraction collector (FC) filled up his last free location within a run. This automatically activated the second FC. There the first free position will be used for the next fraction. If this position is not needed in the current RUN, the following problem occurred. On the next run, the second FC skips the first position and starts at the second position. This change prevents the unnecessary skipping of the free position. • KPR# 756091 The following issue occurred only when using fraction mode "Time-based, collecting a number of fractions". In addition, the number of fractions must be the same. In this case the first time interval set in the time table (TT) was wrongly used for the following time table entries. Here, time interval means the time between the first and second TT entry.

	To prevent this issue, the time between the TT entries is now also taken into account. If there is a difference, the time interval for the next fraction is determined correctly.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 205 - Infinity II Fraction Collector Changes D.07.37 (G1364E, G1364F, G5664B)

Date Introduced:	December 2022
Revision:	1364E_D737_002, 1364F_D737_002, 5664B_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• KPR# 599017 Running a sequence with many lines, in first sequence line the fraction start position is defined, all other lines use "next location". If in the current analysis #2 no fractions are collected due to "FractionCollection: disable method", in the next analysis #3 the start position is wrongly calculated to the second fraction position of the previous analysis #1. • KPR# 650759 There are two ways for the user to perform the needle rinse procedure on the G5664B • Rinse with LabAdvisor • Rinse with OpenLAB ChemStation By using LabAdvisor the rinse works properly. When rinsing G5664B via the ChemStation the arm moves too far out, and module goes into error state. The issue is caused because different commands are used, and the arm is moving to a different position. The fix ensures that the same position is used in both procedures.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 206 - Infinity II Fraction Collector Changes D.07.35 (G1364E, G1364F, G5664B)

Date Introduced:	December 2021
Revision:	1364E_D735_002, 1364F_D735_002, 5664B_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• Increased max. well-volume for SBS-plate-object from 100 ml to 2000 ml.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 207 - Infinity II Fraction Collector Changes D.07.34 (G1364E, G1364F, G5664B)

Date Introduced:	June 2021
Revision:	1364E_D734_006, 1364F_D734_006, 5664B_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• KPR#529223

	• Fixed that the fraction collection might unexpectedly stop in the following setup: method with time-sliced fraction collection (Time Table), depending on - flow - dead volume between detector and fraction collector - begin and end of fraction collection. • KPR#223520 Fixed that fraction start location was wrongly reset to A1 if no fraction was collected in first run of a sequence even if start location was set to another location before.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 208 - Infinity II Fraction Collector Changes D.07.33 (G1364E, G1364F, G5664B)

Date Introduced:	November 2020
Revision:	1364E_D733_003, 1364F_D733_003, 5664B_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• KPR# 413231 It is now allowed to assign exchanged wellplates in currently not active fraction collectors during analysis. • KPR# 431701 Fixed that occasionally spilling solvent onto capped vials. When using the vial filling mode "contact control" and a fraction was collected then the needle started to move upwards too early and too high. This resulted in that solvent was spilled onto the capped vials.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 209 - Infinity II Fraction Collector Changes D.07.30 (G1364E, G1364F, G5664B)

Date Introduced:	May 2020
Revision:	1364E_D730_005, 1364F_D730_005, 5664B_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR#290499 When using 60-tubes- or 215-tubes trays on a G1364E Prep-FC, it is not clear which will become the first fraction position in the next analysis when "use next row/col" is selected. Now always the 1st position on next row/col is used! • KPR#307785 When using well plates and collection mode "continuous flow" it could happen that at end of a time-based (*) fraction collection period the valve didn't switch to waste and the well plate was overflooded. (*) all affected modes are: Time-based, collecting time-slices, volume-slices, number-of-fractions peak-based, collecting time-slices, volume-slices. • KPR#393917

	Fixed the following situation in a fraction-collection cluster with peak-based fraction collection: If FC #1 collects a "peak-based" fraction into its last location, at end of this fraction FC #2 becomes active and at once starts collecting a "peak-based" fraction even if there was no peak. This is fixed now.
New Features:	• Implemented command 'FRACCOL:FORBIDDEN:STORAGE <mode>' to allow specification of the storage location for the list of ForbiddenPositions. The storage location may be NV_RAM (default) or in RAM only. • Implement mode 'direct fractions to waste' beside existing mode 'stop with error' for the command 'FRACCOL:OUTOFPOSITIONS <mode>' to specify the reaction on fraction collector is "out-of-positions".
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 210 - Infinity II Fraction Collector Changes D.07.28 (G1364E, G1364F, G5664B)

Date Introduced:	December 2019
Revision:	1364E_D728_006, 1364F_D728_006, 5664B_D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#155615 Removed the limits for PeakDetection parameters "Threshold" and "UpperThreshold". • KPR#343200 Changes of peak detection parameters for different peak trigger sources (DAD - SigA and Sig B, MSD) within a short time (0.01min = 0.6sec) are now correctly handled. • KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector. • KPR#299060 After power-on the module with the ERI-APG-Remote-cable to MSD the first peak found by MSD was not collected! Fixed, first peak now collected correctly. The FW for the fraction collector as well the FW of the module with the ERI-APG-Remote-cable have to be upgraded! • KPR#344608 In very rare cases a crash to resident system occurred when another method was loaded. Fixed. • KPR#361277 In case of overfill of the last position of a fraction collector the number and reason for this fraction is now correctly transmitted to next fraction collector. • KPR#288119 Defined list of forbidden positions is now securely kept over power-cycle (off-on).

	• KPR#318980 Fixed a sporadic failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 211 - Infinity II Fraction Collector Changes D.07.27 (G1364E, G1364F, G5664B)

Date Introduced:	June 2019
Revision:	1364E_D727_006, 1364F_D727_006, 5664B_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	• KPR#248948 Fixed that the arm may hit against funnel tray when moving over well plate. This situation was seen when the module was equipped with "2 well plates, 10 funnel tray" (G1364-84522), 2 well plates "96Agilent" were loaded.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 212 - Infinity II Fraction Collector Changes D.07.25 (G1364E, G1364F, G5664B)

Date Introduced:	October 2018
Revision:	1364E_D725_013, 1364F_D725_013, 5664B_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• TeamTrack #031067 Re-activating parked trigger when Fraction Collector becomes active during analysis to prevent from fraction wrongly collected between two peaks. • TeamTrack #029791 Fixed behavior of peak detection combined with upper threshold (peak start of next peak was occasionally not reported due to state is still in-peak).
New Features:	• No TeamTrack Allow usage of 0.25mm ID tubing kits (for G1364E (Prep-FC) only).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 213 - Infinity II Fraction Collector Changes D.07.24 (G1364E, G1364F, G5664B)

Date Introduced:	April 2018
Revision:	1364E_D724_001, 1364F_D724_001, 5664B_D724_001, Res_D723_009
General:	
Bugfix:	• TeamTrack #030900: Fix that occasionally leaks occurred during delay calibration.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 214 - Infinity II Fraction Collector Changes D.07.23 (G1364E, G1364F, G5664B)

Date Introduced:	February 2018

Revision:	1364E_D723_009, 1364F_D723_009, 5664B_D723_009, Res_D723_009
General:	See Core Changes B/D.07.23
Bugfix:	• TeamTrack #029678: Moved settable overfill-behavior from user interface into driver implementation. • TeamTrack #029698: Fixed that delay calibration with manual injector now works. • TeamTrack #029790: Fixed that a 60 tube tray in a G1364E was handled as two units (two 30 tubes trays). Now handled as one unit. • No TeamTrack: Fixed that reset RecoveryPosition on ZeroVolume of a single unit did not work. • No TeamTrack: Implemented new not-ready condition "Unconfigured PeakDet/GPIO" for non-linked detectors.
New Features:	• Implemented support for fraction collection clustering. • TeamTrack #029963: Implemented support of 20mm needle in G1364F (Analytical-FC) and G5664B (Bio-FC).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 215 - Infinity II Fraction Collector Changes D.07.20 (G1364E, G1364F, G5664B)

Date Introduced:	October 2017
Revision:	1364E_D720_016, 1364F_D720_016, 5664B_D720_016, Res_D720_002
General:	Initial Firmware
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Preparative Open Bed Fraction Collector (G7159B)

Table 216 - Preparative Open Bed Fraction Collector Changes D.07.39 (G7159B)

Date Introduced:	Oct 2023
Revision:	7159B_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• KPR# 799598 The following problem occurred only if a 'delay volume calibration' was executed and the following analysis was using the fraction mode "Next position". By running a 'delay volume calibration' the 'Last Used Position' was set to an invalid value. If the next analysis was using the fraction mode "Next Position" the error (EE 4958 - no valid next position) occurred. The change now ensures that the 'Last Used Position' is not changed by the 'delay volume calibration'. • KPR# 944263 The following problem occurred only if fraction mode pooling was used. A sequence contained multiple injections of the same sample with the intent to pool the collected fractions. The first run gave an absolute start location for the fractions, all other runs are set to Pooling. If the first run did not collect any fractions, the pooling of the following runs referred to the fraction start location of the last run before this sequence (or the first available fraction location on the fraction bed). The change now ensures that the correct start position is used.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 217 - Preparative Open Bed Fraction Collector Changes D.07.38 (G7159B)

Date Introduced:	May 2023
Revision:	7159B_D738_004, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• KPR# 742868 The following problem occurred only when using a fraction collector cluster. The first fraction collector (FC) filled up his last free location within a run. This automatically activated the second FC. There the first free position will be used for the next fraction. If this position is not needed in the current RUN, the following problem occurred. On the next run, the second FC skips the first position and starts at the second position. This change prevents the unnecessary skipping of the free position. • KPR# 756091 The following issue occurred only when using fraction mode "Time-based, collecting a number of fractions". In addition, the number of fractions must be the same. In this case the first time interval set in the time table (TT) was wrongly used for the following time table entries. Here, time interval means the time between the first and second TT entry. To prevent this issue, the time between the TT entries is now

	also taken into account. If there is a difference, the time interval for the next fraction is determined correctly.
New Features:	• Implemented support for container G7158-68002.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 218 - Preparative Open Bed Fraction Collector Changes D.07.37 (G7159B)

Date Introduced:	December 2022
Revision:	7159B_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• KPR# 599017 Running a sequence with many lines, in first sequence line the fraction start position is defined, all other lines use "next location". If in the current analysis #2 no fractions are collected due to "FractionCollection: disable method", in the next analysis #3 the start position is wrongly calculated to the second fraction position of the previous analysis #1.
New Features:	• Implemented support for containers G7158-68000 and G7158-68001.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 219 - Preparative Open Bed Fraction Collector Changes D.07.35 (G7159B)

Date Introduced:	December 2021
Revision:	7159B_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• Increased max. well-volume for SBS-plate-object from 100 ml to 2000 ml.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 220 - Preparative Open Bed Fraction Collector Changes D.07.34 (G7159B)

Date Introduced:	June 2021
Revision:	7159B_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• KPR#529223 Fixed that the fraction collection might unexpectedly stop in the following setup: method with time-sliced fraction collection (Time Table), depending on - flow - dead volume between detector and fraction collector - begin and end of fraction collection. • KPR#223520 Fixed that fraction start location was wrongly reset to A1 if no fraction was collected in first run of a sequence even if start location was set to another location before.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 221 - Preparative Open Bed Fraction Collector Changes D.07.33 (G7159B)

Date Introduced:	November 2020
Revision:	7159B_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• KPR# 413231 It is now allowed to assign exchanged wellplates in currently in-active fraction collectors during analysis. • KPR 462505 Failure to read container RFID-tag in very rare cases. This fix solves a problem, which could happen in very rare cases upon drawer insertion, where the FW didn't read the tag, though the tag and the reader HW are fully functional. • KPR 248954 Fixed that the first drawer of an in-active fraction collector (member of a fraction-collector-cluster) was locked and couldn't be removed during an analysis.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 222 - Preparative Open Bed Fraction Collector Changes D.07.31 (G7159B)

Date Introduced:	July 2020
Revision:	7159B_D731_002, Res_D730_005
General:	
Bugfix:	• KPR# 430458 Fixed sporadically occurring shutdown error after module initialization when ERI FC Cluster Valve (G9222A) is connected. • KPR# 431748 Fixed that on some units the scanning of wash-port markers failed, after update to firmware revision D.07.30. An adaption was made to allow better physical device variations, regarding the optical scan of wash-port markers.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 223 - Preparative Open Bed Fraction Collector Changes D.07.30 (G7159B)

Date Introduced:	May 2020
Revision:	7159B_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 379114 Pending robot-calibration-scans will be automatically resumed after system abort. The only exception is ABORTED SCANS, which will NOT be resumed automatically after abort. In this exception case, remove and re-insert the affected drawer. Not-ready-conditions are displayed accordingly. • KPR# 389387 Implemented support for multi-unit-plates. These are plates/containers, having multiple geometrical grids. That means, sample-positions within DIFFERENT equidistant-spaced row-column-grids may be defined and used.

	• KPR#393917 Fixed the following situation in a fraction-collection cluster with peak-based fraction collection: If FC #1 collects a "peak-based" fraction into its last location, at end of this fraction FC #2 becomes active and at once starts collecting a "peak-based" fraction even if there was no peak. This is fixed now. • KPR# 401094 Fixed the following situation: In the rare case of obstacles within the bed, where robot moves are blocked, the robot merely stops its motors, but doesn't report an error as expected. The analysis was also not stopped. Fixed now, an error is reported and the analysis stops. • KPR# 402371 Fixed sporadically occurring cases of crashes when using Abort during robot-init or -reset. • KPR# 403023 Implemented support for the Gilson-style 208 containers, using the specific Agilent-drawers provided for Gilson 208. • KPR# 417306 Container-removal by user during container scans will now silently abort scanning of this container/drawer immediately. All not-ready conditions associated to pending or erroneous calibration of this container/drawer will be cleared upon removal.
New Features:	• Implemented command 'FRACCOL:FORBIDDEN:STORAGE <mode>' to allow specification of the storage location for the list of ForbiddenPositions. The storage location may be NV_RAM (default) or in RAM only. • Implement mode 'direct fractions to waste' beside existing mode 'stop with error' for the command 'FRACCOL:OUTOFPOSITIONS <mode>' to specify the reaction on fraction collector is "out-of-positions".
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 224 - Preparative Open Bed Fraction Collector Changes D.07.29 (G7159B)

Date Introduced:	December 2019
Revision:	7159B_D729_001, Res_D728_006
General:	
Bugfix:	• KPR#378271 Fixed that initialization of robot failed in very rare cases.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 225 - Preparative Open Bed Fraction Collector Changes D.07.28 (G7159B)

Date Introduced:	December 2019
Revision:	7159B_D728_007, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#155615 Removed the limits for PeakDetection parameters "Threshold" and "UpperThreshold". • KPR#343200 Changes of peak detection parameters for different peak trigger

	sources (DAD - SigA and Sig B, MSD) within a short time (0.01min = 0.6sec) are now correctly handled. • KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector. • KPR#299060 After power-on the module with the ERI-APG-Remote-cable to MSD the first peak found by MSD was not collected! Fixed, first peak now collected correctly. The FW for the fraction collector as well the FW of the module with the ERI-APG-Remote-cable have to be upgraded! • KPR#344608 In very rare cases a crash to resident system occurred when another method was loaded. Fixed. • KPR#361277 In case of overfill of the last position of a fraction collector the number and reason for this fraction is now correctly transmitted to next fraction collector. • KPR#288119 Defined list of forbidden positions is now securely kept over power-cycle (off-on). • KPR#289772 Improved handling of pending container calibration jobs. • KPR#372386 The LabAdvisor-procedure for radius calibration was sporadically interrupted by failing of unneeded FW-internal computations. Improvement by context-specific error-filtering within FW, which allows now execution of the LabAdvisor-procedure w/o interruption. • KPR#373613 On rare conditions, containers couldn't get presence-calibrated, and thus, the unit would remain in not-ready-state. The fix increases the robustness against such rare cases. • KPR#318980 Fixed a sporadic failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 226 - Preparative Open Bed Fraction Collector Changes D.07.27 (G7159B)

Date Introduced:	June 2019
Revision:	7159B_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 227 - Preparative Open Bed Fraction Collector Changes D.07.25 (G7159B)

Date Introduced:	October 2018
Revision:	7159B_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• TeamTrack #031067 Re-activating parked trigger when Fraction Collector becomes active during analysis to prevent from fraction wrongly collected between two peaks. • TeamTrack #029791 Fixed behavior of peak detection combined with upper threshold (peak start of next peak was occasionally not reported due to state is still in-peak).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 228 - Preparative Open Bed Fraction Collector Changes D.07.23 (G7159B)

Date Introduced:	February 2018
Revision:	7159B_D723_009, Res_D723_009
General:	See Core Changes B/D.07.23
Bugfix:	• TeamTrack #029742: Fixed that Hathi provided wrong values in the answer to the query command ACT:FRACOL:RINSE?
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 229 - Preparative Open Bed Fraction Collector Changes D.07.21 (G7159B)

Date Introduced:	October 2017
Revision:	7159B_D721_001, Res_D720_002
General:	TeamTrack #029447: Adapted tag-reading to new tubing tags (EEPROM DS28EC20P+) replacing the old tags. **This firmware revision does no longer support old tubing tags and requires a hardware-change for all existing modules. The corresponding hardware exchange-kit will be supplied by factory to all existing customers with old hardware. If you install this firmware on old hardware you will see a message "invalid tubing". In this case downgrade to firmware 7.20!**
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 230 - Preparative Open Bed Fraction Collector Changes D.07.20 (G7159B)

Date Introduced:	June 2017
Revision:	7159B_D720_007, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• TeamTrack #026374: Fixed that occasionally time table entries wrongly survived to the next analysis.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 231 - Preparative Open Bed Fraction Collector Changes D.07.12 (G7159B)

Date Introduced:	December 2016
Revision:	7159B_D712_002, Res_D710_002
General:	See Core Changes B/D.07.12
Bugfix:	• TeamTrack #26486: Adapted that pin #5 of ERI-APG Remote interface now works like the GPIO-interface of the UIB I and UIB II, now allowing the MS-based fraction-collection.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 232 - Preparative Open Bed Fraction Collector Changes D.07.10 (G7159B)

Date Introduced:	October 2016
Revision:	7159B_D710_005, Res_D710_002
General:	Initial firmware for G7159B
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Preparative Open Bed Sampler/Collector (G7158B)

Table 233 - Preparative Open Bed Sampler/Collector Changes D.07.39 (G7158B)

Date Introduced:	Oct 2023
Revision:	7158B_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• KPR# 799598 The following problem occurred only if a 'delay volume calibration' was executed and the following analysis was using the fraction mode "Next position". By running a 'delay volume calibration' the 'Last Used Position' was set to an invalid value. If the next analysis was using the fraction mode "Next Position" the error (EE 4958 - no valid next position) occurred. The change now ensures that the 'Last Used Position' is not changed by the 'delay volume calibration'. • KPR# 944263 The following problem occurred only if fraction mode pooling was used. A sequence contained multiple injections of the same sample with the intent to pool the collected fractions. The first run gave an absolute start location for the fractions, all other runs are set to Pooling. If the first run did not collect any fractions, the pooling of the following runs referred to the fraction start location of the last run before this sequence (or the first available fraction location on the fraction bed). The change now ensures that the correct start position is used.
New Features:	• Implemented support for solvent level monitoring for flushing / washing / dilution solvent bottles.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 234 - Preparative Open Bed Sampler/Collector Changes D.07.38 (G7158B)

Date Introduced:	May 2023
Revision:	7158B_D738_004, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• KPR# 742868 The following problem occurred only when using a fraction collector cluster. The first fraction collector (FC) filled up his last free location within a run. This automatically activated the second FC. There the first free position will be used for the next fraction. If this position is not needed in the current RUN, the following problem occurred. On the next run, the second FC skips the first position and starts at the second position. This change prevents the unnecessary skipping of the free position. • KPR# 756091 The following issue occurred only when using fraction mode "Time-based, collecting a number of fractions". In addition, the number of fractions must be the same. In this case the first time interval set in the time table (TT) was wrongly used for the following time table entries. Here, time interval means the time between the first and second TT entry. To prevent this issue, the time between the TT entries is now

	also taken into account. If there is a difference, the time interval for the next fraction is determined correctly.
New Features:	• Implemented support for container G7158-68002.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 235 - Preparative Open Bed Sampler/Collector Changes D.07.37 (G7158B)

Date Introduced:	December 2022
Revision:	7158B_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• KPR# 599017 Running a sequence with many lines, in first sequence line the fraction start position is defined, all other lines use "next location". If in the current analysis #2 no fractions are collected due to "FractionCollection: disable method", in the next analysis #3 the start position is wrongly calculated to the second fraction position of the previous analysis #1.
New Features:	• Implemented support for containers G7158-68000 and G7158-68001.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 236 - Preparative Open Bed Sampler/Collector Changes D.07.35 (G7158B)

Date Introduced:	December 2021
Revision:	7158B_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• Increased max. well-volume for SBS-plate-object from 100 ml to 2000 ml. • Implement support for the new sample loop 5299-0003 with an injection volume of 61 ml
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 237 - Preparative Open Bed Sampler/Collector Changes D.07.34 (G7158B)

Date Introduced:	June 2021
Revision:	7158B_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• KPR#525600 Adapted the flow limit on analytical path to the flow limit on the preparative path when working with two pumps. • KPR#223520 Fixed that fraction start location was wrongly reset to A1 if no fraction was collected in first run of a sequence even if start location was set to another location before.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 238 - Preparative Open Bed Sampler/Collector Changes D.07.33 (G7158B)

Date Introduced:	November 2020

Revision:	7158B_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• KPR# 413231 It is now allowed to assign exchanged wellplates in currently in-active fraction collectors during analysis. • KPR 462505 Failure to read container RFID-tag in very rare cases. This fix solves a problem, which could happen in very rare cases upon drawer insertion, where the FW didn't read the tag, though the tag and the reader HW are fully functional.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 239 - Preparative Open Bed Sampler/Collector Changes D.07.31 (G7158B)

Date Introduced:	July 2020
Revision:	7158B_D731_002, Res_D730_005
General:	
Bugfix:	• KPR# 430458 Fixed sporadically occurring shutdown error after module initialization when ERI FC Cluster Valve (G9222A) is connected. • KPR# 431748 Fixed that on some units the scanning of wash-port markers failed, after update to firmware revision D.07.30. An adaption was made to allow better physical device variations, regarding the optical scan of wash-port markers.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 240 - Preparative Open Bed Sampler/Collector Changes D.07.30 (G7158B)

Date Introduced:	May 2020
Revision:	7158B_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 280520 Problems with robot-container-scans caused either by blind/stained markers or defective sensor-HW are now reported in details to users by errors. • KPR# 379114 Pending robot-calibration-scans will be automatically resumed after system abort. The only exception is ABORTED SCANS, which will NOT be resumed automatically after abort. In this exception case, remove and re-insert the affected drawer. Not-ready-conditions are displayed accordingly. • KPR# 386765 The robot's needle-maintenance position was improved, so the customer can access the needle more easily for the "manual needle-cleaning-procedure" with LabAdvisor. • KPR# 389387 Implemented support for multi-unit-plates. These are plates/containers, having multiple geometrical grids. That means, sample-positions within DIFFERENT equidistant-spaced row-column-grids may be defined and used.

	• KPR#393917 Fixed the following situation in a fraction-collection cluster with peak-based fraction collection: If FC #1 collects a "peak-based" fraction into its last location, at end of this fraction FC #2 becomes active and at once starts collecting a "peak-based" fraction even if there was no peak. This is fixed now. • KPR# 401094 Fixed the following situation: In the rare case of obstacles within the bed, where robot moves are blocked, the robot merely stops its motors, but doesn't report an error as expected. The analysis was also not stopped. Fixed now, an error is reported and the analysis stops. • KPR# 401429 Ensure that only properly calibrated metering-pumps are used in operation. • KPR# 402371 Fixed sporadically occurring cases of crashes when using Abort during robot-init or -reset. • KPR# 403023 Implemented support for the Gilson-style 208 containers, using the specific Agilent-drawers provided for Gilson 208. • KPR# 417306 Container-removal by user during container scans will now silently abort scanning of this container/drawer immediately. All not-ready conditions associated to pending or erroneous calibration of this container/drawer will be cleared upon removal.
New Features:	• Implemented command 'FRACCOL:FORBIDDEN:STORAGE <mode>' to allow specification of the storage location for the list of ForbiddenPositions. The storage location may be NV_RAM (default) or in RAM only. • Implement mode 'direct fractions to waste' beside existing mode 'stop with error' for the command 'FRACCOL:OUTOFPOSITIONS <mode>' to specify the reaction on fraction collector is "out-of-positions".
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 241 - Preparative Open Bed Sampler/Collector Changes D.07.29 (G7158B)

Date Introduced:	December 2019
Revision:	7158B_D729_001, Res_D728_006
General:	
Bugfix:	• KPR#378138 Within the wash procedure the needle is washed in the wash port to clean the outer part of the needle. The wash procedure was changed that the needle moves deeper into the wash port and ensures a better cleaning of the outer needle surface. • KPR#378271 Fixed that initialization of robot failed in very rare cases.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 242 - Preparative Open Bed Sampler/Collector Changes D.07.28 (G7158B)

Date Introduced:	December 2019
Revision:	7158B_D728_007, Res_D728_006
General:	Initial firmware for G7158B
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Online Sample Manager (G3167A, G3167B)

Table 243 – Online Sample Manager Changes D.07.39 (G3167A)

Date Introduced:	Oct 2023
Revision:	3167A_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• Implement support for new hydraulic box with DMSSV (dual mix solvent selection valve, G3167-68601). • Code supports the new module type G3167B.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 244 – Online Sample Manager Changes D.07.39 (G3167B)

Date Introduced:	Oct 2023
Revision:	3167B_D739_003, Res_D739_003
General:	Initial FW for G3167B
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Online Sample Manager (G3167A)

Table 245 – Online Sample Manager Changes D.07.38 (G3167A)

Date Introduced:	May 2023
Revision:	3167A_D738_003, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• Better adaption of sensor limits for detection of drawers. • Improved the piercing of the vial septa with the needle. This might prevent from misleading wrong reported 'Needle hit the vessel bottom' (25226) errors. • Washport referencing within auto-referencing is no longer active by default. • Implement support for new main boards with new board revision. • Code supports the new module types G7167C.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 246 – Online Sample Manager Changes D.07.37 (G3167A)

Date Introduced:	December 2022
Revision:	3167A_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• Support modules with new sample thermostat (P/N G7167-60201). • Improved hardware error reporting by adding parameter-values to error-event EE 30751.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 247 – Online Sample Manager Changes D.07.35 (G3167A)

Date Introduced:	December 2021
Revision:	3167A_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• KPR# 587608 Implemented a fix for the following issue: The MIX MAXIMUM VOLUME injector program command could occasionally move the metering device without considering the sample volume drawn. This could have led to sample loss. • KPR# 588720 If a feed injection is selected the feed speed for the metering device can be defined by the customer. The maximum speed was above an internal limit for this device. The speed limit has been corrected and is now 2500ul/min.
New Features:	• Increased max. well-volume for SBS-plate-object from 100 ml to 2000 ml.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 248 – Online Sample Manager Changes D.07.34 (G3167A)

Date Introduced:	July 2021
Revision:	3167A_D734_006, Res_D734_006
General:	Initial Firmware for G3167A
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Detector Firmware Changes

Variable Wavelength Detector (VWD) (G1314A, G1314B, G1314C)

Table 249 - VWD Changes A.07.02 (G1314A, G1314B, G1314C)

Date Introduced:	October 2016
Revision:	1314A_A702_001, 1314B_A702_001, 1314C_A702_001, Res_A701_001
General:	
Bugfix:	• None
New Features:	• TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 250 - VWD Changes A.07.01 (G1314A, G1314B, G1314C)

Date Introduced:	May 2016
Revision:	1314A_A701_001, 1314B_A701_001, 1314C_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Variable Wavelength Detector (VWD) (G1314D, G1314E, G1314F)

Table 251 - VWD Changes B.07.39 (G1314D, G1314E, G1314F)

Date Introduced:	Oct 2023
Revision:	1314D_B739_003, 1314E_B739_003, 1314F_B739_003, Res_B739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 252 - VWD Changes B.07.38 (G1314D, G1314E, G1314F)

Date Introduced:	May 2023
Revision:	1314D_B738_001, 1314E_B738_001, 1314F_B738_001, Res_B738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 253 - VWD Changes B.07.37 (G1314D, G1314E, G1314F)

Date Introduced:	December 2022
Revision:	1314D_B737_002, 1314E_B737_002, 1314F_B737_002, Res_B737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 254 - VWD Changes B.07.35 (G1314D, G1314E, G1314F)

Date Introduced:	December 2021
Revision:	1314D_B735_002, 1314E_B735_002, 1314F_B735_002, Res_B735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 255 - VWD Changes B.07.34 (G1314D, G1314E, G1314F)

Date Introduced:	June 2021
Revision:	1314D_B734_006, 1314E_B734_006, 1314F_B734_006, Res_B734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 256 - VWD Changes B.07.33 (G1314D, G1314E, G1314F)

Date Introduced:	November 2020
Revision:	1314D_B733_003, 1314E_B733_003, 1314F_B733_003, Res_B733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 257 - VWD Changes B.07.30 (G1314D, G1314E, G1314F)

Date Introduced:	May 2020
Revision:	1314D_B730_005, 1314E_B730_005, 1314F_B730_005, Res_B730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 390385 Ensures that most recent test result of holmium spectrum test (WHOL) is available via query.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 258 - VWD Changes B.07.28 (G1314D, G1314E, G1314F)

Date Introduced:	December 2019
Revision:	1314D_B728_006, 1314E_B728_006, 1314F_B728_006, Res_B728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 259 - VWD Changes B.07.27 (G1314D, G1314E, G1314F)

Date Introduced:	June 2019
Revision:	1314D_B727_006, 1314E_B727_006, 1314F_B727_006, Res_B727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 260 - VWD Changes B.07.25 (G1314D, G1314E, G1314F)

Date Introduced:	October 2018

Revision:	1314D_B725_013, 1314E_B725_013, 1314F_B725_013, Res_B725_006
General:	See Core Changes B/D.07.25
Bugfix:	• KPR#245030 Fixed that counter for lamp-on time and ignitions were lost after coldstart when using lamps with no tags.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 261 - VWD Changes B.07.23 (G1314D, G1314E, G1314F)

Date Introduced:	February 2018
Revision:	1314D_B723_009, 1314E_B723_009, 1314F_B723_009, Res_B723_009
General:	See Core Changes B/D.07.23
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 262 - VWD Changes B.07.20 (G1314D, G1314E, G1314F)

Date Introduced:	June 2017
Revision:	1314D_B720_007, 1314E_B720_007, 1314F_B720_007, Res_B720_002
General:	See Core Changes B/D.07.20
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 263 - VWD Changes B.07.10 (G1314D, G1314E, G1314F)

Date Introduced:	October 2016
Revision:	1314D_B710_004, 1314E_B710_004, 1314F_B710_004, Res_B710_002
General:	
Bugfix:	• None.
New Features:	• See Core Changes B/D.07.10 • TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 264 - VWD Changes B.07.01 (G1314D, G1314E, G1314F)

Date Introduced:	May 2016
Revision:	1314D_B701_005, 1314E_B701_005, 1314F_B701_005, Res_B701_001
General:	
Bugfix:	• None
New Features:	• See Core Changes B/D.07.01
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Variable Wavelength Detector (VWD) (G7114A, G7114B)

Table 265 - VWD Changes D.07.39 (G7114A, G7114B)

Date Introduced:	Oct 2023
Revision:	7114A_D739_003, 7114B_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 266 - VWD Changes D.07.38 (G7114A, G7114B)

Date Introduced:	May 2023
Revision:	7114A_D738_002, 7114B_D738_002, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 267 - VWD Changes D.07.37 (G7114A, G7114B)

Date Introduced:	December 2022
Revision:	7114A_D737_002, 7114B_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 268 - VWD Changes D.07.35 (G7114A, G7114B)

Date Introduced:	December 2021
Revision:	7114A_D735_002, 7114B_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 269 - VWD Changes D.07.34 (G7114A, G7114B)

Date Introduced:	June 2021
Revision:	7114A_D734_006, 7114B_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 270 - VWD Changes D.07.33 (G7114A, G7114B)

Date Introduced:	November 2020
Revision:	7114A_D733_003, 7114B_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None

New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 271 - VWD Changes D.07.30 (G7114A, G7114B)

Date Introduced:	May 2020
Revision:	7114A_D730_005, 7114B_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 347006 Adapted method parameter verification for VWD which reduces possible run aborts due to changes of method parameters.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 272 - VWD Changes D.07.29 (G7114A, G7114B)

Date Introduced:	May 2023
Revision:	7114A_D729_050, 7114B_D729_050
General:	Backward Compatibility release for FW D.07.2x decade (see also release of FW D.07.38)
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 273 - VWD Changes D.07.28 (G7114A, G7114B)

Date Introduced:	December 2019
Revision:	7114A_D728_006, 7114B_D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 274 - VWD Changes D.07.27 (G7114A, G7114B)

Date Introduced:	June 2019
Revision:	7114A_D727_006, 7114B_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 275 - VWD Changes D.07.26 (G7114A, G7114B)

Date Introduced:	January 2019

Revision:	7114A_D726_002, 7114B_D726_002, Res_D725_006
General:	
Bugfix:	• KPR#259873 Fixes that after using multi wavelength mode (MWL) and power-cycling the device, it occasionally happened that MWL mode was still active although another mode was selected in the software.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 276 - VWD Changes D.07.25 (G7114A, G7114B)

Date Introduced:	October 2018
Revision:	7114A_D725_013, 7114B_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• KPR#245030 Fixed that counter for lamp-on time and ignitions were lost after coldstart when using lamps with no tags.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 277 - VWD Changes D.07.23 (G7114A, G7114B)

Date Introduced:	February 2018
Revision:	7114A_D723_009, 7114B_D723_009, Res_D723_009
General:	See Core Changes B/D.07.23
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 278 - VWD Changes D.07.20 (G7114A, G7114B)

Date Introduced:	June 2017
Revision:	7114A_D720_007, 7114B_D720_007, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 279 - VWD Changes D.07.12 (G7114A, G7114B)

Date Introduced:	May 2017
Revision:	7114A_D712_001, 7114B_D712_001, Res_D710_002
General:	See Core Changes B/D.07.12
Bugfix:	• TeamTrack #028565: Multi-Wavelength-Mode was not operating after power-cycle. The Multi-Wavelength option was still active but signal A and B were identical.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 280 - VWD Changes D.07.11 (G7114A, G7114B)

Date Introduced:	March 2017
Revision:	7114A_D711_001, 7114B_D711_001, Res_D710_002
General:	
Bugfix:	• TeamTrack #028132: G7114 VWD - Filter Position Error During tests in manufacturing it has been encountered that the filter motor occasionally ends up on a wrong position. This may happen during any movement of the filter block such as prepare, UV- or Holmium Filter. Partially blocked or misaligned filters and shutters may cause intermittent error with possible effects such as offsets or inaccuracy. Power cycling resets the position errors that accumulate over time during operation. Therefore (just) the delay time before disabling hold current after move has been increased from 50 to 500 ms.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 281 - VWD Changes D.07.10 (G7114A, G7114B)

Date Introduced:	October 2016
Revision:	7114A_D710_004, 7114B_D710_004, Res_D710_002
General:	
Bugfix:	• None
New Features:	• TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B. • See Core Changes B/D.07.10
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 282 - VWD Changes D.07.02 (G7114A, G7114B)

Date Introduced:	June 2016
Revision:	7114A_D702_001, 7114B_D702_001, Res_D701_001
General:	
Bugfix:	• Teamtrack #025303: Implemented fix for occasional occurring errors EE 7809 (Grating wrong origin) and EE 7813 (Filter test failed).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 283 - VWD Changes D.07.01 (G7114A, G7114B)

Date Introduced:	May 2016
Revision:	7114A_D701_005, 7114B_D701_005, Res_D701_001
General:	
Bugfix:	• See Core Changes B/D.07.01
New Features:	• No TeamTrack: Code supports the new module type G7114A
OQ/PV Recommendation:	See OQ/PV - Validation Information.

DAD/MWD (G1315A DAD, G1315B DAD, G1365A MWD, G1365B MWD)

Table 284 - DAD/MWD Changes A.07.02 (G1315A DAD, G1315B DAD, G1365A MWD, G1365B MWD)

Date Introduced:	October 2016
Revision:	1315A_A702_001, 1315B_A702_001, 1365A_A702_001, 1365B_A702_001, Res_A701_001
General:	
Bugfix:	• None
New Features:	• TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 285 - DAD/MWD Changes A.07.01 (G1315A DAD, G1315B DAD, G1365A MWD, G1365B MWD)

Date Introduced:	May 2016
Revision:	1315A_A701_001, 1315B_A701_001, 1365A_A701_001, 1365B_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

DAD/MWD (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Table 286 - DAD/MWD Changes B.07.39 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	Oct 2023
Revision:	1315C_B739_003, 1315D_B739_003, 1365C_B739_003, 1365D_B739_003, Res_B739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 287 - DAD/MWD Changes B.07.38 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	May 2023
Revision:	1315C_B738_001, 1315D_B738_001, 1365C_B738_001, 1365D_B738_001, Res_B738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 288 - DAD/MWD Changes B.07.37 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	December 2022
Revision:	1315C_B737_002, 1315D_B737_002, 1365C_B737_002, 1365D_B737_002, Res_B737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 289 - DAD/MWD Changes B.07.35 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	December 2021
Revision:	1315C_B735_002, 1315D_B735_002, 1365C_B735_002, 1365D_B735_002, Res_B735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 290 - DAD/MWD Changes B.07.34 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	June 2021
Revision:	1315C_B734_006, 1315D_B734_006, 1365C_B734_006, 1365D_B734_006, Res_B734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 291 - DAD/MWD Changes B.07.33 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	November 2020
Revision:	1315C_B733_003, 1315D_B733_003, 1365C_B733_003, 1365D_B733_003, Res_B733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 292 - DAD/MWD Changes B.07.30 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	May 2020
Revision:	1315C_B730_005, 1315D_B730_005, 1365C_B730_005, 1365D_B730_005, Res_B730_005
General:	See Core Changes B/D.07.30
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 293 - DAD/MWD Changes B.07.28 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	December 2019
Revision:	1315C_B728_006, 1315D_B728_006, 1365C_B728_006, 1365D_B728_006, Res_B728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 294 - DAD/MWD Changes B.07.27 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	June 2019
Revision:	1315C_B727_006, 1315D_B727_006, 1365C_B727_006, 1365D_B727_006, Res_B727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 295 - DAD/MWD Changes B.07.25 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	October 2018
Revision:	1315C_B725_013, 1315D_B725_013, 1365C_B725_013, 1365D_B725_013, Res_B725_006
General:	See Core Changes B/D.07.25

Bugfix:	• KPR#245030 Fixed that counter for lamp-on time and ignitions were lost after coldstart when using lamps with no tags.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 296 - DAD/MWD Changes B.07.23 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	February 2018
Revision:	1315C_B723_009, 1315D_B723_009, 1365C_B723_009, 1365D_B723_009, Res_B723_009
General:	See Core Changes B/D.07.23
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 297 - DAD/MWD Changes B.07.20 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	June 2017
Revision:	1315C_B720_007, 1315D_B720_007, 1365C_B720_007, 1365D_B720_007, Res_B720_002
General:	See Core Changes B/D.07.20
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 298 - DAD/MWD Changes B.07.10 (G1315C DAD, G1315D DAD, G1365C MWD, G1365D MWD)

Date Introduced:	October 2016
Revision:	1315C _B710_004, 1315D _B710_004, 1365C _B710_004, 1365D_B710_004, Res_B710_002
General:	
Bugfix:	• None
New Features:	• See Core Changes B/D.07.10 • TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 299 - DAD/MWD Changes B.07.01 (G1315C, G1315D, G1365C, G1365D)

Date Introduced:	May 2016
Revision:	1315C_B701_005, 1315D_B701_005, 1365C_B701_005, 1365D_B701_005, Res_B701_001
General:	
Bugfix:	• None
New Features:	• See Core Changes B/D.07.01
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II DAD / MWD (G7115A DAD, G7165A MWD)

Table 300 - DAD / MWD Changes D.07.39 (G7115A DAD, G7165A MWD)

Date Introduced:	Oct 2023
Revision:	7115A_D739_003, 7165A_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 301 - DAD / MWD Changes D.07.38 (G7115A DAD, G7165A MWD)

Date Introduced:	May 2023
Revision:	7115A_D738_001, 7165A_D738_001, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 302 - DAD / MWD Changes D.07.37 (G7115A DAD, G7165A MWD)

Date Introduced:	December 2022
Revision:	7115A_D737_002, 7165A_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 303 - DAD / MWD Changes D.07.35 (G7115A DAD, G7165A MWD)

Date Introduced:	December 2021
Revision:	7115A_D735_002, 7165A_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 304 - DAD / MWD Changes D.07.34 (G7115A DAD, G7165A MWD)

Date Introduced:	June 2021
Revision:	7115A_D734_006, 7165A_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• KPR# 477240 Robustness of data (diag-buffer) of the DAD detector G7117 is improved. This data is used by LabAdvisor testbench "SelfTest". Rare problems with the interpretation of internal scan data which might result in a failed test result (wrong negative) is fixed.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 305 - DAD / MWD Changes D.07.33 (G7115A DAD, G7165A MWD)

Date Introduced:	November 2020
Revision:	7115A_D733_003, 7165A_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 306 - DAD / MWD Changes D.07.30 (G7115A DAD, G7165A MWD)

Date Introduced:	May 2020
Revision:	7115A_D730_005, 7165A_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 307 - DAD / MWD Changes D.07.29 (G7115A DAD, G7165A MWD)

Date Introduced:	May 2023
Revision:	7115A_D729_050, 7165A_D729_050
General:	Backward Compatibility release for FW D.07.2x decade (see also release of FW D.07.38)
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 308 - DAD / MWD Changes D.07.28 (G7115A DAD, G7165A MWD)

Date Introduced:	December 2019
Revision:	7115A_D728_006, 7165A_D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#248937; Fixed sporadically cases of not updated analog output (output value freeze). • KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 309 - DAD / MWD Changes D.07.27 (G7115A DAD, G7165A MWD)

Date Introduced:	June 2019
Revision:	7115A_D727_006, 7165A_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	

New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 310 - DAD / MWD Changes D.07.25 (G7115A DAD, G7165A MWD)

Date Introduced:	October 2018
Revision:	7115A_D725_013, 7165A_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• KPR#245030 Fixed that counter for lamp-on time and ignitions were lost after coldstart when using lamps with no tags.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 311 - DAD / MWD Changes D.07.23 (G7115A DAD, G7165A MWD)

Date Introduced:	February 2018
Revision:	7115A_D723_009, 7165A_D723_009, Res_D723_009
General:	See Core Changes B/D.07.23
Bugfix:	• TeamTrack #029741: Fixed that the LED illumination is turned off immediately after sending the 'LGHT 0' command.
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 312 - DAD / MWD Changes D.07.20 (G7115A DAD, G7165A MWD)

Date Introduced:	June 2017
Revision:	7115A_D720_007, 7165A_D720_007, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• TeamTrack #028098: Fixed incorrect automatic reference spectra. • TeamTrack #027907: Fixed failing impurity calculation for DADs due to spectrum attribute "unknown (0)".
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 313 - DAD / MWD Changes D.07.12 (G7115A DAD, G7165A)

Date Introduced:	December 2016
Revision:	7115A_D712_002, 7165A_D712_002, Res_D710_002
General:	See Core Changes B/D.07.12
Bugfix:	• TeamTrack #027218: Increased VIS-intensity set point to have the same intensity as the G1315/65C.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 314 - DAD / MWD Changes D.07.10 (G7115A DAD, G7165A MWD)

Date Introduced:	October 2016
Revision:	7115A_D710_004, 7165A_D710_004, Res_D710_002
General:	
Bugfix:	• None

New Features:	• TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B. • See Core Changes B/D.07.10
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 315 - DAD / MWD Changes D.07.01 (G7115A DAD, G7165A MWD)

Date Introduced:	May 2016
Revision:	7115A_D701_005, 7165A_D701_005, Res_D701_001
General:	
Bugfix:	• See Core Changes B/D.07.01
New Features:	• No TeamTrack: Code supports the new module types G7117C, G7115A and G7165A.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

DAD (G4212A, G4212B)

Table 316 - DAD Changes B.07.39 (G4212A, G4212B)

Date Introduced:	Oct 2023
Revision:	4212A_B739_003, 4212B_B739_003, Res_B739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 317 - DAD Changes B.07.38 (G4212A, G4212B)

Date Introduced:	May 2023
Revision:	4212A_B738_001, 4212B_B738_001, Res_B738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 318 - DAD Changes B.07.37 (G4212A, G4212B)

Date Introduced:	December 2022
Revision:	4212A_B737_002, 4212B_B737_002, Res_B737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 319 - DAD Changes B.07.35 (G4212A, G4212B)

Date Introduced:	December 2021
Revision:	4212A_B735_002, 4212B_B735_002, Res_B735_002
General:	See Core Changes B/D.07.35
Bugfix:	• KPR# 557614 Robustness of data (diag-buffer) of the DAD detector G4212 is improved. This data is used by LabAdvisor testbench "SelfTest". Rare problems with the interpretation of internal scan data which might result in a failed test result (wrong negative) is fixed.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 320 - DAD Changes B.07.34 (G4212A, G4212B)

Date Introduced:	June 2021
Revision:	4212A_B734_006, 4212B_B734_006, Res_B734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 321 - DAD Changes B.07.33 (G4212A, G4212B)

Date Introduced:	November 2020
Revision:	4212A_B733_003, 4212B_B733_003, Res_B733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 322 - DAD Changes B.07.30 (G4212A, G4212B)

Date Introduced:	May 2020
Revision:	4212A_B730_005, 4212B_B730_005, Res_B730_005
General:	See Core Changes B/D.07.30
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 323 - DAD Changes B.07.28 (G4212A, G4212B)

Date Introduced:	December 2019
Revision:	4212A_B728_006, 4212B_B728_006, Res_B728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 324 - DAD Changes B.07.27 (G4212A, G4212B)

Date Introduced:	June 2019
Revision:	4212A_B727_006, 4212B_B727_006, Res_B727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 325 - DAD Changes B.07.25 (G4212A, G4212B)

Date Introduced:	October 2018
Revision:	4212A_B725_013, 4212B_B725_013, Res_B725_006
General:	See Core Changes B/D.07.25
Bugfix:	• KPR#245030 Fixed that counter for lamp-on time and ignitions were lost after coldstart when using lamps with no tags.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 326 - DAD Changes B.07.23 (G4212A, G4212B)

Date Introduced:	February 2018
Revision:	4212A_B723_009, 4212B_B723_009, Res_B723_009
General:	See Core Changes B/D.07.23
Bugfix:	• TeamTrack #029741: Fixed that the LED illumination is turned off immediately after sending the 'LGHT 0' command.
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 327 - DAD Changes B.07.20 (G4212A, G4212B)

Date Introduced:	June 2017
Revision:	4212A_B720_007, 4212B_B720_007, Res_B720_002
General:	See Core Changes B/D.07.20
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 328 - DAD Changes B.07.10 (G4212A, G4212B)

Date Introduced:	October 2016
Revision:	1314D_B710_004, 1314E_B710_004, 1314F_B710_004, Res_B710_002
General:	
Bugfix:	• None.
New Features:	• See Core Changes B/D.07.10 • TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 329 - DAD Changes B.07.01 (G4212A, G4212B)

Date Introduced:	May 2016
Revision:	4212A_B701_005, 4212B_B701_005, Res_B701_001
General:	
Bugfix:	• None
New Features:	• See Core Changes B/D.07.01
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II DAD (G7117A, G7117B, G7117C)

Table 330 - DAD Changes D.07.39 (G7117A, G7117B, G7117C)

Date Introduced:	Oct 2023
Revision:	7117A_D739_003, 7117B_D739_003, 7117C_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 331 - DAD Changes D.07.38 (G7117A, G7117B, G7117C)

Date Introduced:	May 2023
Revision:	7117A_D738_001, 7117B_D738_001, 7117C_D738_001, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 332 - DAD Changes D.07.37 (G7117A, G7117B, G7117C)

Date Introduced:	December 2022
Revision:	7117A_D737_002, 7117B_D737_002, 7117C_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 333 - DAD Changes D.07.35 (G7117A, G7117B, G7117C)

Date Introduced:	December 2021
Revision:	7117A_D735_002, 7117B_D735_002, 7117C_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 334 - DAD Changes D.07.34 (G7117A, G7117B, G7117C)

Date Introduced:	June 2021
Revision:	7117A_D734_006, 7117B_D734_006, 7117C_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• KPR# 477240 Robustness of data (diag-buffer) of the DAD detector G7117 is improved. This data is used by LabAdvisor testbench "SelfTest". Rare problems with the interpretation of internal scan data

	which might result in a failed test result (wrong negative) is fixed.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 335 - DAD Changes D.07.33 (G7117A, G7117B, G7117C)

Date Introduced:	November 2020
Revision:	7117A_D733_003, 7117B_D733_003, 7117C_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 336 - DAD Changes D.07.30 (G7117A, G7117B, G7117C)

Date Introduced:	May 2020
Revision:	7117A_D730_005, 7117B_D730_005, 7117C_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 337 - DAD Changes D.07.29 (G7117A, G7117B, G7117C)

Date Introduced:	May 2023
Revision:	7117A_D729_050, 7117B_D729_050, 7117C_D729_050
General:	Backward Compatibility release for FW D.07.2x decade (see also release of FW D.07.38)
Bugfix:	• None
New Features:	• Implement support for new main boards with new board revision.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 338 - DAD Changes D.07.28 (G7117A, G7117B, G7117C)

Date Introduced:	December 2019
Revision:	7117A_D728_006, 7117B_D728_006, 7117C_D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#248937; Fixed sporadically cases of not updated analog output (output value freeze). • KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector.
New Features:	• None

OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 339 - DAD Changes D.07.27 (G7117A, G7117B, G7117C)

Date Introduced:	June 2019
Revision:	7117A_D727_006, 7117B_D727_006, 7117C_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 340 - DAD Changes D.07.25 (G7117A, G7117B, G7117C)

Date Introduced:	October 2018
Revision:	7117A_D725_013, 7117B_D725_013, 7117C_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• KPR#245030 Fixed that counter for lamp-on time and ignitions were lost after coldstart when using lamps with no tags.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 341 - DAD / MWD Changes D.07.23 (G7117A, G7117B, G7117C)

Date Introduced:	February 2018
Revision:	7117A_D723_009, 7117B_D723_009, 7117C_D723_009, Res_D723_009
General:	See Core Changes B/D.07.23
Bugfix:	• TeamTrack #029741: Fixed that the LED illumination is turned off immediately after sending the 'LGHT 0' command.
New Features:	•
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 342 - DAD / MWD Changes D.07.20 (G7117A, G7117B, G7117C)

Date Introduced:	June 2017
Revision:	7117A_D720_007, 7117B_D720_007, 7117C_D720_007, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• TeamTrack #028098: Fixed incorrect automatic reference spectra. • TeamTrack #027907: Fixed failing impurity calculation for DADs due to spectrum attribute "unknown (0)".
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 343 - DAD / MWD Changes D.07.10 (G7117A, G7117B, G7117C)

Date Introduced:	October 2016
Revision:	7117A_D710_004, 7117B_D710_004, 7117C_D710_004, Res_D710_002

General:	
Bugfix:	• None
New Features:	• TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B. • See Core Changes B/D.07.10
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 344 - DAD / MWD Changes D.07.01 (G7117A, G7117B, G7117C)

Date Introduced:	May 2016
Revision:	7117A_D701_005, 7117B_D701_005, 7117C_D701_005, Res_D701_001
General:	
Bugfix:	• See Core Changes B/D.07.01
New Features:	• No TeamTrack: Code supports the new module types G7117C, G7115A and G7165A.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Fluorescence Detector (FLD) (G1321A SPECTRA, G1321B SPECTRA, G1321C FLD)

Table 345 - FLD Changes A.07.02 (G1321A SPECTRA, G1321B SPECTRA, G1321C FLD)

Date Introduced:	October 2016
Revision:	1321A_A702_001, 1321B_A702_001, 1321C_A702_001, Res_A701_001
General:	
Bugfix:	• TeamTrack #025284, PRESTO-DEPA0520 Australia: Increased robustness in the position finding routine of the FLD to overcome problems with G7167.
New Features:	• TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 346 - FLD Changes A.07.01 (G1321A SPECTRA, G1321B SPECTRA, G1321C FLD)

Date Introduced:	May 2016
Revision:	1321A_A701_001, 1321B_A701_001, 1321C_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Fluorescence Detector (FLD) (G7121A FLD, G7121B SPECTRA)

Table 347 - Infinity II FLD Changes D.07.39 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	Oct 2023
Revision:	7121A_D739_003, 7121B_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 348 - Infinity II FLD Changes D.07.38 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	May 2023
Revision:	7121A_D738_001, 7121B_D738_001, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 349 - Infinity II FLD Changes D.07.37 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	December 2022
Revision:	7121A_D737_002, 7121B_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 350 - Infinity II FLD Changes D.07.35 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	December 2021
Revision:	7121A_D735_002, 7121B_D735_002, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• KPR# 582530 Improved motor control to reduce sporadically appearing errors "6713, 6714 motor lost its position (position mode)".
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 351 - Infinity II FLD Changes D.07.34 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	June 2021
Revision:	7121A_D734_006, 7121B_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• KPR# 479855 Improved the robustness of encoder error handling. This improvement reduces the likeliness of error 6720 (FLD_EM_MOT_INDEX_WRONG).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 352 - Infinity II FLD Changes D.07.33 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	November 2020
Revision:	7121A_D733_003, 7121B_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 353 - Infinity II FLD Changes D.07.31 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	September 2020
Revision:	7121A_D731_004, 7121B_D731_004, Res_D730_005
General:	
Bugfix:	• KPR#416370 The specification of the motors used on the EX and EM monochromators for G7121A/B FLDs has changed. Adapted the control parameters to operate those assemblies correctly across the entire specification range.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 354 - Infinity II FLD Changes D.07.30 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	May 2020
Revision:	7121A_D730_005, 7121B_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• KPR#248929 Existing self test dark-current causes now instrument error if it fails.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 355 - Infinity II FLD Changes D.07.29 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	September 2020
Revision:	7121A_D729_003, 7121B_D729_003
General:	Backward Compatibility release for FW D.07.2x decade
Bugfix:	• KPR#416370 The specification of the motors used on the EX and EM monochromators for G7121A/B FLDs has changed. Adapted the control parameters to operate those assemblies correctly across the entire specification range.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 356 - Infinity II FLD Changes D.07.29 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	December 2019
Revision:	7121A_D729_002, 7121B_D729_002, Res_D728_006

General:	
Bugfix:	• KPR#378275 Improved stability is added for the motor assay in rotation mode. This update solves issues with motor assays failing the LabAdvisor and FW internal friction test.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 357 - Infinity II FLD Changes D.07.28 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	December 2019
Revision:	7121A_D728_006, 7121B_D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 358 - Infinity II FLD Changes D.07.27 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	June 2019
Revision:	7121A_D727_006, 7121B_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	• KPR#248968 Lifetime counter of flash lamp now works correctly. • KPR#287105 Fixed that selected acquisition data mode was sporadically lost after power-cycle and module sent unexpected number of data points. • KPR#296342 Improved robustness of grating encoder.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 359 - Infinity II FLD Changes D.07.26 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	March 2019
Revision:	7121A_D726_001, 7121B_D726_001, Res_D725_006
General:	
Bugfix:	• KPR#267952 Fixes that method parameter DMUL gets reset after a power cycle of the module. • KPR#271361 Fixes that method parameter DMUL gets rounded when decimal places are specified.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 360 - Infinity II FLD Changes D.07.25 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	October 2018
Revision:	7121A_D725_013, 7121B_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 361 - Infinity II FLD Changes D.07.24 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	May 2018
Revision:	7121A_D724_001, 7121B_D724_001, Res_D723_009
General:	
Bugfix:	• TeamTrack #031089: Fixed negative LU values after power cycle when lamp economy mode is active.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 362 - Infinity II FLD Changes D.07.23 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	February 2018
Revision:	7121A_D723_009, 7121B_D723_009, Res_D723_009
General:	See Core Changes B/D.07.23
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 363 - Infinity II FLD Changes D.07.20 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	June 2017
Revision:	7121A_D720_009, 7121B_D720_009, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• TeamTrack #028845: Fixed that Zero Order operation for EX did not work. • TeamTrack #028782: Changed 3D Scan to be correctly displayed in ChemStation.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 364 - Infinity II FLD Changes D.07.15 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	February 2017
Revision:	7121A_D715_001, 7121B_D715_001, Res_D710_002
General:	
Bugfix:	• TeamTrack #027517: Fixed that CDS Sequence occasionally stopped when running method in rotation mode with spectra acquisition enabled.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 365 - Infinity II FLD Changes D.07.12 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	December 2016
Revision:	7121A_D712_001, 7121B_D712_001, Res_D710_002
General:	See Core Changes B/D.07.12
Bugfix:	• TeamTrack #027281: Fixed that gratings could not be initialized after a change of the optical unit.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 366 - Infinity II FLD Changes D.07.11 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	November 2016
Revision:	7121A_D711_001, 7121B_D711_001, Res_D710_002
General:	
Bugfix:	• TeamTrack #026906: Fixed intensity scan (Intensity Test), Firmware did not deliver results in D.07.10 [0004].
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 367 - Infinity II FLD Changes D.07.10 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	October 2016
Revision:	7121A_D710_004, 7121B_D710_004, Res_D710_002
General:	
Bugfix:	• TeamTrack # 025437: Fixed possible wrong runtimes in CDS monitor when taking scans.
New Features:	• TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B. • See Core Changes B/D.07.10
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 368 - Infinity II FLD Changes D.07.01 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	July 2016
Revision:	7121A_D701_011, 7121B_D701_011, Res_D701_001
General:	
Bugfix:	• G7121A: Just added a MFG access to ISO-absorbance plot for MFG test.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 369 - Infinity II FLD Changes D.07.01 (G7121A FLD, G7121B SPECTRA)

Date Introduced:	July 2016
Revision:	7121A_D701_001, Res_D701_001
General:	Initial Firmware – The G7121A was not shipped with this revision!
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Refractive Index Detector (RID) (G1362A)

Table 370 - RID Changes A.07.02 (G1362A)

Date Introduced:	October 2016
Revision:	1362A_A702_001, Res_A701_001
General:	
Bugfix:	• None
New Features:	• TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 371 - RID Changes A.07.01 (G1362A)

Date Introduced:	May 2016
Revision:	1362A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Refractive Index Detector (RID) (G7162A STD, G7162B MICRO)

Table 372 - Infinity II RID Changes D.07.39 (G7162A STD, G7162B MICRO)

Date Introduced:	Oct2023
Revision:	7162A_D739_003, 7162B_D739_003, Res_D739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 373 - Infinity II RID Changes D.07.38 (G7162A STD, G7162B MICRO)

Date Introduced:	May 2023
Revision:	7162A_D738_001, 7162B_D738_001, Res_D738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 374 - Infinity II RID Changes D.07.37 (G7162A STD, G7162B MICRO)

Date Introduced:	December 2022
Revision:	7162A_D737_002, 7162B_D737_002, Res_D737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 375 - Infinity II RID Changes D.07.35 (G7162A STD, G7162B MICRO)

Date Introduced:	December 2021
Revision:	7162A_D735_003, 7162B_D735_003, Res_D735_002
General:	See Core Changes B/D.07.35
Bugfix:	• KPR# 274579 Fixed that module did not indicate "unbalanced diodes" in cases like calibration with sucrose (water on reference and sucrose on sample side). Now module shows 'not ready' in cases of "unbalanced diodes".
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 376 - Infinity II RID Changes D.07.34 (G7162A STD, G7162B MICRO)

Date Introduced:	June 2021
Revision:	7162A_D734_006, 7162B_D734_006, Res_D734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 377 - Infinity II RID Changes D.07.33 (G7162A STD, G7162B MICRO)

Date Introduced:	November 2020
Revision:	7162A_D733_003, 7162B_D733_003, Res_D733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 378 - Infinity II RID Changes D.07.30 (G7162A STD, G7162B MICRO)

Date Introduced:	May 2020
Revision:	7162A_D730_005, 7162B_D730_005, Res_D730_005
General:	See Core Changes B/D.07.30
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 379 - Infinity II RID Changes D.07.28 (G7162A STD, G7162B MICRO)

Date Introduced:	December 2019
Revision:	7162A_D728_006, 7162B_D728_006, Res_D728_006
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources. The solution for this failure requests new FW for the detector(s) and for the fraction collector.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 380 - Infinity II RID Changes D.07.27 (G7162A STD, G7162B MICRO)

Date Introduced:	June 2019
Revision:	7162A_D727_006, 7162B_D727_006, Res_D727_006
General:	See Core Changes B/D.07.27
Bugfix:	• KPR#263941 Fixed that "Time since last purge" counter was not correctly reset after purge. Now, the counter gets correctly reset after purge.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 381 - Infinity II RID Changes D.07.25 (G7162A STD, G7162B MICRO)

Date Introduced:	October 2018
Revision:	7162A_D725_013, 7162B_D725_013, Res_D725_006
General:	See Core Changes B/D.07.25
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 382 - Infinity II RID Changes D.07.23 (G7162A STD, G7162B MICRO)

Date Introduced:	February 2018
Revision:	7162A_D723_009, 7162B_D723_009, Res_D723_009
General:	See Core Changes B/D.07.23
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 383 - Infinity II RID Changes D.07.20 (G7162A STD, G7162B MICRO)

Date Introduced:	June 2017
Revision:	7162A_D720_007, 7162B_D720_007, Res_D720_002
General:	See Core Changes B/D.07.20
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 384 - Infinity II RID Changes D.07.10 (G7162A STD, G7162B MICRO)

Date Introduced:	October 2016
Revision:	7162A_D710_004, 7162B_D710_004, Res_D710_002
General:	
Bugfix:	• None
New Features:	• TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B. • See Core Changes B/D.07.10
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 385 - Infinity II RID Changes D.07.01 (G7162A STD, G7162B MICRO)

Date Introduced:	July 2016
Revision:	7162A_D701_005, 7162B_D701_005, Res_D701_001
General:	
Bugfix:	• None
New Features:	• See Core Changes B/D.07.01
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Other Modules

Thermostatted Column Compartment (TCC) (G1316A, G1316B, G1316C)

Table 386 - TCC Changes A.07.02 (G1316A, G1316B, G1316C)

Date Introduced:	June 2017
Revision:	1316A_A702_001, 1316B_A702_001, 1316C_A702_001, Res_A701_001
General:	
Bugfix:	• None
New Features:	• TeamTrack #028573: Added RealNumber to SoftTag mechanism, ensuring compatibility with older driver revisions to support 800 bar valves.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 387 - TCC Changes A.07.01 (G1316A, G1316B, G1316C)

Date Introduced:	May 2016
Revision:	1316A_A701_001, 1316B_A701_001, 1316C_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Universal Interface Box (UIB) (G1390A)

Table 388 - UIB Changes A.07.01 (G1390A)

Date Introduced:	May 2016
Revision:	1390A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Valves (G115xA/B, G116xA/B)

Table 389 - Valve Changes A.07.01 (G115xA/B, G116xA/B)

Date Introduced:	May 2016
Revision:	1390A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Chip Cube (G4240A)

Table 390 - Chip Cube Changes A.07.01 (G4240A)

Date Introduced:	May 2016
Revision:	4240A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Automation Interface (G2254A)

Table 391 – Automation Interface Changes A.07.01 (G2254A)

Date Introduced:	May 2018
Revision:	2254A_A701_001, Res_A701_001
General:	Compatibility change: Re-release of last, unchanged revision A.06.50 [001] under new revision name A.07.01 [001].
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

LAN Interface Card (G1369C)

NOTE If hosted modules are used in the system, the G1369C LAN Interface Card MUST have the same firmware revision (from the same set) as the hosted module. Otherwise the operation of hosted module(s) will show malfunctions.

Table 392 - LAN Interface Card Changes B.07.39 (G1369C)

Date Introduced:	Oct 2023
Revision:	1369C_B739_003, Resident Res_1369C_B739_003
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 393 - LAN Interface Card Changes B.07.38 (G1369C)

Date Introduced:	May 2023
Revision:	1369C_B738_001, Resident Res_1369C_B738_001
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 394 - LAN Interface Card Changes B.07.37 (G1369C)

Date Introduced:	December 2022
Revision:	1369C_B737_002, Resident Res_1369C_B737_002
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 395 - LAN Interface Card Changes B.07.35 (G1369C)

Date Introduced:	December 2021
Revision:	1369C_B735_002, Resident Res_1369C_B735_002
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 396 - LAN Interface Card Changes B.07.34 (G1369C)

Date Introduced:	June 2021
Revision:	1369C_B734_006, Resident Res_1369C_B734_006
General:	See Core Changes B/D.07.34
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 397 - LAN Interface Card Changes B.07.33 (G1369C)

Date Introduced:	November 2020
Revision:	1369C_B733_003, Resident Res_1369C_B733_003
General:	See Core Changes B/D.07.33
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 398 - LAN Interface Card Changes B.07.30 (G1369C)

Date Introduced:	May 2020
Revision:	1369C_B730_005, Resident Res_1369C_B730_005
General:	See Core Changes B/D.07.30
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 399 - LAN Interface Card Changes B.07.28 (G1369C)

Date Introduced:	December 2019
Revision:	1369C_B728_006, Resident Res_1369C_B728_006
General:	See Core Changes B/D.07.28
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 400 - LAN Interface Card Changes B.07.27 (G1369C)

Date Introduced:	June 2019
Revision:	1369C_B727_006, Resident Res_1369C_B727_006
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 401 - LAN Interface Card Changes B.07.25 (G1369C)

Date Introduced:	October 2018
Revision:	1369C_B725_013, Resident Res_1369C_B725_006
General:	See Core Changes B/D.07.25
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 402 - LAN Interface Card Changes B.07.23 (G1369C)

Date Introduced:	February 2018
Revision:	1369C_B723_009, Resident Res_1369C_B723_009
General:	See Core Changes B/D.07.23
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 403 - LAN Interface Card Changes B.07.20 (G1369C)

Date Introduced:	June 2017
Revision:	1369C_B720_007, Resident Res_1369C_B720_002
General:	See Core Changes B/D.07.20
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 404 - LAN Interface Card Changes B.07.10 (G1369C)

Date Introduced:	October 2016
Revision:	1369C_B710_004, Resident Res_1369C_B710_002
General:	See Core Changes B/D.07.10
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 405 - LAN Interface Card Changes B.07.01 (G1369C)

Date Introduced:	May 2016
Revision:	1369C_B701_005, Resident Res_1369C_B701_001
General:	See Core Changes B/D.07.01
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

CAN Slaves (Hosted Modules)

NOTE These modules require “C” firmware!

Infinity II Multicolumn Thermostat (MCT) (G7116A/G7116B)

Table 406 - Infinity II MCT Changes C.07.32[040] (G7116A/B)

Date Introduced:	March 2024
Revision:	7116A_C732_040, 7116B_C732_040
General:	
Bugfix:	• KPR# 974313 Fixed that sporadically the RFID-tags (valve tag) were inaccessible after power-on. Often a new power-on helped to overcome the fault situation, but this is fixed now.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 407 - Infinity II MCT Changes C.07.32[020] (G7116A/B)

Date Introduced:	September 2023
Revision:	7116A_C732_020, 7116B_C732_020
General:	
Bugfix:	• KPR# 961692 Fixed that occasionally the valve drive option was wrongly detected. The valve drive option was only detected wrongly on modules without valve drive and with new mainboards. The final test in production covers these affected configurations. Therefore a customer's module may only be affected after a mainboard exchange and when using revision C.07.32 [002].
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 408 - Infinity II MCT Changes C.07.32 (G7116A/B)

Date Introduced:	May 2023
Revision:	7116A_C732_002, 7116B_C732_002, Res_C732_002
General:	
Bugfix:	• None
New Features:	• Implemented to also support new main boards with new board revision. This change affects hosting implementation only. Firmware host and SW interface will remain untouched. For existing hardware with old main boards there are no functional changes compared to last revision C.07.31.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 409 - Infinity II MCT Changes C.07.31 (G7116A/B)

Date Introduced:	August 2022
Revision:	7116A_C731_002, 7116B_C731_002
General:	
Bugfix:	• None

New Features:	• Adapted the implementation to also support another type of FPGA chips used on future main boards. • Implemented means to better identify hardware options on different main boards.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 410 - Infinity II MCT Changes C.07.30 (G7116A/B)

Date Introduced:	May 2020
Revision:	7116A_C730_001, 7116B_C730_001, Res_C730_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• KPR#352909 Make restarts after firmware update more stable in large instruments with many modules.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 411 - Infinity II MCT Changes C.07.23[040] (G7116A/B)

Date Introduced:	March 2024
Revision:	7116A_C723_040, 7116B_C723_040
General:	Backward Compatibility release for FW D.07.2x decade (see also release of FW C.07.32[040])
Bugfix:	• KPR# 974313 Fixed that sporadically the RFID-tags (valve tag) were inaccessible after power-on. Often a new power-on helped to overcome the fault situation, but this is fixed now.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 412 - Infinity II MCT Changes C.07.23[020] (G7116A/B)

Date Introduced:	Sep 2023
Revision:	7116A_C723_020, 7116B_C723_020
General:	Backward Compatibility release for FW D.07.2x decade (see also release of FW C.07.32[020])
Bugfix:	• KPR#961692 Fixed that occasionally the valve drive option was wrongly detected. The valve drive option was only detected wrongly on modules without valve drive and with new mainboards. The final test in production covers these affected configurations. Therefore a customer's module may only be affected after a mainboard exchange and when using revision C.07.23 [001].
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 413 - Infinity II MCT Changes C.07.23 (G7116A/B)

Date Introduced:	May 2023
Revision:	7116A_C723_001, 7116B_C723_001, Res_C723_001
General:	Backward Compatibility release for FW D.07.2x decade (see also release of FW C.07.32)

Bugfix:	• None
New Features:	• Implemented to also support new main boards with new board revision. This change affects slave implementation only. Firmware host and SW interface will remain untouched. For existing hardware with old main boards there are no functional changes compared to last revision C.07.22.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 414 - Infinity II MCT Changes C.07.22 (G7116A/B)

Date Introduced:	August 2022
Revision:	7116A_C722_002, 7116B_C722_002
General:	Backward Compatibility release for FW D.07.2x decade
Bugfix:	• None
New Features:	• Adapted the implementation to also support another type of FPGA chips used on future main boards. • Implemented means to better identify hardware options on different main boards.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 415 - Infinity II MCT Changes C.07.21 (G7116A/B)

Date Introduced:	September 2018
Revision:	7116A_C721_001, 7116B_C721_001, Res_C720_002
General:	
Bugfix:	• TeamTrack #031897 Fixed that the column thermostat sporadically (wrongly) reported that one of the sensors failed (EE32090-EE32095) and aborted the analysis.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 416 - Infinity II MCT Changes C.07.20 (G7116A/B)

Date Introduced:	June 2017
Revision:	7116A_C720_002, 7116B_C720_002, Res_C720_002
General:	Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 417 - Infinity II MCT Changes C.07.10 (G7116A/B)

Date Introduced:	October 2016
Revision:	7116A_C710_001, 7116B_C710_001, Res_C710_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• No TeamTrack: The device state during valve initialization is now correctly 'not ready'.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 418 - Infinity II MCT Changes C.07.01 (G7116A/B)

Date Introduced:	May 2016
Revision:	7116A_C701_001, 7116B_C701_001, Res_C701_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• No TeamTrack: Code supports the new module type G7116A.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Infinity II Valve-based Fraction Collector (G7166A)

Table 419 - Infinity II Valve-based Fraction Collector Changed C.07.30 (G7166A)

Date Introduced:	May 2020
Revision:	7166A_C730_001, Res_C730_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• KPR#352909 Make restarts after firmware update more stable in large instruments with many modules. • KPR# 393917 Fixed the following situation in a fraction-collection cluster with peak-based fraction collection: If FC #1 collects a "peak-based" fraction into its last location, at end of this fraction FC #2 becomes active and at once starts collecting a "peak-based" fraction even if there was no peak. This is fixed now. • KPR# 378887 The FractionBox (G7166A) will not switch from Recovery-position to waste at end of run if the corresponding fraction collector is currently collecting a fraction (this fraction is cut by end of run).
New Features:	• Implemented command 'FRACCOL:FORBIDDEN:STORAGE <mode>' to allow specification of the storage location for the list of ForbiddenPositions. The storage location may be NV_RAM (default) or in RAM only. • Implement mode 'direct fractions to waste' beside existing mode 'stop with error' for the command 'FRACCOL:OUTOFPOSITIONS <mode>' to specify the reaction on fraction collector is "out-of-positions".
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 420 - Infinity II Valve-based Fraction Collector Changed C.07.20 (G7166A)

Date Introduced:	June 2017
Revision:	7166A_C720_002, Res_C720_002
General:	Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 421 - Infinity II Valve-based Fraction Collector Changed C.07.10 (G7166A)

Date Introduced:	October 2016
Revision:	7166A_C710_001, Res_C710_001
General:	Initial Firmware
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

1290 Infinity II MS Flow Modulator (G7170B)

Table 422 – 1290 Infinity II MS Flow Modulator Changed C.07.31 (G7170B)

Date Introduced:	March 2024
Revision:	7170B_C731_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• KPR#991568 Avoid sporadic occurring splitter error. Operating the splitter for a long time could lead to a lost split ratio. A power-cycle of the module fixed the problem for a particular time. Now a fix is implemented.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 423 – 1290 Infinity II MS Flow Modulator Changed C.07.30 (G7170B)

Date Introduced:	May 2020
Revision:	7170B_C730_001, Res_C730_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• KPR#352909 Make restarts after firmware update more stable in large instruments with many modules.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 424 – 1290 Infinity II MS Flow Modulator Changed C.07.20 (G7170B)

Date Introduced:	June 2017
Revision:	7170B_C720_002, Res_C720_002
General:	Initial FW
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Valve Drive (G1170A)

Table 425 - Valve Drive Changes C.07.30 (G1170A)

Date Introduced:	May 2020
Revision:	1170A_C730_001, Res_C730_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• KPR#352909 Make restarts after firmware update more stable in large instruments with many modules.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 426 - Valve Drive Changes C.07.20 (G1170A)

Date Introduced:	June 2017
Revision:	1170A_C720_003, Res_C720_002
General:	Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 427 - Valve Drive Changes C.07.10 (G1170A)

Date Introduced:	October 2016
Revision:	1170A_C710_001, Res_C710_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• No TeamTrack: The device state during valve initialization is now correctly 'not ready'.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 428 - Valve Drive Changes C.07.01 (G1170A)

Date Introduced:	May 2016
Revision:	1170A_C701_001, Res_C701_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Universal Interface Box II (UIB II) (G1390B)

Table 429 - UIB II Changes C.07.30 (G1390B)

Date Introduced:	May 2020
Revision:	1390B_C730_001, Res_C730_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• KPR#352909 Make restarts after firmware update more stable in large instruments with many modules.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 430 - UIB II Changes C.07.20 (G1390B)

Date Introduced:	June 2017
Revision:	1390B_C720_002, Res_C720_002
General:	Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 431 - UIB II Changes C.07.10 (G1390B)

Date Introduced:	October 2016
Revision:	1390B_C710_001, Res_C710_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• No TeamTrack: Fixed that the commands GPO[x]:PULS did not generate a pulse.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 432 - UIB II Changes C.07.01 (G1390B)

Date Introduced:	May 2016
Revision:	1390B_C701_001, Res_C701_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Flexible Cube (G4227A)

Table 433 - Flexible Cube Changes C.07.30 (G4227A)

Date Introduced:	May 2020
Revision:	4227A_C730_001, Res_C730_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• KPR#352909 Make restarts after firmware update more stable in large instruments with many modules.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 434 - Flexible Cube Changes C.07.20 (G4227A)

Date Introduced:	June 2017
Revision:	4227A_C720_002, Res_C720_002
General:	Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 435 - Flexible Cube Changes C.07.10 (G4227A)

Date Introduced:	October 2016
Revision:	4227A_C710_001, Res_C710_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 436 - Flexible Cube Changes C.07.01 (G4227A)

Date Introduced:	May 2016
Revision:	4227A_C701_001, Res_C701_001
General:	Core Changes for compatibility of host modules.
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

1120/1220 LC system

The 1120 Compact LC and 1220 LC System include several modules under several product numbers, see 1120 Compact LC / 1220 Infinity LC.

Below are the firmware changes listed.

Table 437 - 1120/1220 LC system Changes B.07.39

Date Introduced:	Oct 2023
Revision:	42XXA_B739_003, Res_B739_003 see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.39
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 438 - 1120/1220 LC system Changes B.07.38

Date Introduced:	May 2023
Revision:	42XXA_B738_001, Res_B738_001 see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.38
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 439 - 1120/1220 LC system Changes B.07.37

Date Introduced:	December 2022
Revision:	42XXA_B737_002, Res_B737_002, see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.37
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 440 - 1120/1220 LC system Changes B.07.35

Date Introduced:	December 2021
Revision:	42XXA_B735_002, Res_B735_002, see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.35
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 441 - 1120/1220 LC system Changes B.07.34

Date Introduced:	June 2021
Revision:	42XXA_B734_006, Res_B734_006, see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.34

Bugfix:	• KPR#487865 Fixed that Compact LC's pump sporadically showed error 2040,2 after startup with firmware revision B.07.33.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 442 - 1120/1220 LC system Changes B.07.33

Date Introduced:	November 2020
Revision:	~~42XXA_B733_003~~, Res_B733_003, see 1120 Compact LC / 1220 Infinity LC.
Comment:	26 Nov 2020: Do Not use this 42xxA_B733_003 Main FW version for 1120/1220 LC; (Service Note 1220-038)
General:	See ~~Core Changes B/D.07.33~~
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 443 - 1120/1220 LC system Changes B.07.30

Date Introduced:	May 2020
Revision:	42XXA_B730_005, Res_B730_005, see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.30
Bugfix:	• KPR# 248492 The pump shows 'not ready'-state until the desired degasser pressure has been reached. The pump gets ready, once the "not ready" limit of 150 mbar is reached or creates an error when new time-out of 16 minutes is reached. After being in 'ready'-state the pump goes into error if vacuum drops beyond error limit again. • KPR# 248581 Adapt the pressure sensor reset command to allow automatic offset compensation. • KPR# 306521 In very rare cases the interpolation of a gradient, during analysis, can fail and lead to a gradient error.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 444 - 1120/1220 LC system Changes B.07.28

Date Introduced:	December 2019
Revision:	42XXA_B728_006, Res_B728_006, see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.28
Bugfix:	• KPR#357781 There was an unexpected fraction right after "Peak-based fraction collection" is switched on in TimeTable. There was a failure in the algorithm which combines the "BeginPeak"- and EndPeak"-messages from different peak trigger sources.

	The solution for this failure requests new FW for the detector(s) and for the fraction collector
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 445 - 1120/1220 LC system Changes B.07.27

Date Introduced:	June 2019
Revision:	42XXA_B727_006, Res_B727_006, see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.27
Bugfix:	
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 446 - 1120/1220 LC system Changes B.07.26

Date Introduced:	December 2018
Revision:	42XXA_B726_001, Res_B725_006, see 1120 Compact LC / 1220 Infinity LC.
General:	
Bugfix:	• KPR#253202 Fixed that the module sporadically needed a very long startup-time (up to 30 minutes) after power-on with FW revisions B.07.23 or B.07.25.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 447 - 1120/1220 LC system Changes B.07.25

Date Introduced:	October 2018
Revision:	42XXA_B725_013, Res_B725_006, see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.25
Bugfix:	• TeamTrack #030667 Store MCGV- and Inlet-/Outlet-Valve counter in FLASH now. Before counter values were lost with cold-start.KPR#245030 Fixed that counter for lamp-on time and ignitions were lost after coldstart.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 448 - 1120/1220 LC system Changes B.07.23

Date Introduced:	February 2018
Revision:	42XXA_B723_009, Res_B723_009, see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.23
Bugfix:	• TeamTrack #030063: Changed the algorithm of the motor temperature observation in the pump. The change in the algorithm fixes that sporadically a wrong motor temperature error EE02042 (MOTOR_POWER_TOO_HIGH) was generated.

	• TeamTrack #029656: Corrected the error-behavior of the pump on low-pressure when minimum pressure was set to a value below 20 bar. • TeamTrack #028838: Fixed that the pump's MCGV was not closed in case of pump-off (PUMP 0).
New Features:	
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 449 - 1120/1220 LC system Changes B.07.21

Date Introduced:	October 2017
Revision:	42XXA_B721_001, Res_B720_002, see 1120 Compact LC / 1220 Infinity LC.
General:	
Bugfix:	• TeamTrack #029412: Enlarged blankout-time of DCGV to allow more reliable control of hardware. • TeamTrack #028837: Close DCGV when pump is switched off or pump goes to error (leak detected and shutdown).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 450 - 1120/1220 LC system Changes B.07.20

Date Introduced:	June 2017
Revision:	42XXA_B720_007, Res_B720_002, see 1120 Compact LC / 1220 Infinity LC.
General:	See Core Changes B/D.07.20
Bugfix:	• TeamTrack #028458: Fixed that detection of DCGV may cause error EE 2040,0 or EE 2040,1. • TeamTrack #028395: Fixed inter-FPGA communication problems with revisions B.07.01 up to B.07.12 occasionally leading to several different hardware errors (missing DCGV, ALS initialization failed, lamp recognition, degasser recognition, oven errors, etc.).
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 451 - 1120/1220 LC system Changes B.07.12

Date Introduced:	December 2016
Revision:	42XXA_B712_002, Res_B710_002, see 1120 Compact LC / 1220 Infinity LC.
General:	
Bugfix:	• TeamTrack #027285: Fixed that occasionally the module showed panic if the sum of rounded composition was greater than 100%. • TeamTrack #027286: Better algorithm for OQ/PV test implemented.
New Features:	• None.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 452 - 1120/1220 LC system Changes B.07.10

Date Introduced:	October 2016

Revision:	42XXA_B710_004, Res_B710_002, see 1120 Compact LC / 1220 Infinity LC.
General:	
Bugfix:	• TeamTrack #026436: Fixed that the SSV occasionally switched to the wrong position after power-cycle. • TeamTrack #025089: Implemented better pump ripple calculation.
New Features:	• TeamTrack #025195, #026041: Implemented remote peak detector support for new module Prep AFC G7159B. • See Core Changes B/D.07.10
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 453 - 1120/1220 LC system Changes B.07.01

Date Introduced:	May 2016
Revision:	42XXA_B701_004, Res_B701_001, see 1120 Compact LC / 1220 Infinity LC.
General:	
Bugfix:	• None
New Features:	• See Core Changes B/D.07.01
OQ/PV Recommendation:	See OQ/PV - Validation Information.

SFC Modules

SFC Controller (G4301A)

The Controller firmware is independent from the module firmware. The version B2 and C2 depend on the used main board version.

Table 454 - SFC Controller Changes A309 (G4301A)

Date Introduced:	February 2017
Revision:	4301A_B2_A309_005.afi, 4301A_C2_A309_005.afi
General:	
Bugfix:	• TeamTrack #025291: USB connection to SFC works now with Windows10 without additional drivers. Fully backward compatible to Win7 systems with special driver. • TeamTrack #026520: BPR pressure now timetable programmable. Now supported from the driver. • TeamTrack #027129: unexpected shutdown when changing the nozzle temperature from 80 C to 60 C. • TeamTrack #027094: driver does not allow back pressure changes during run.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 455 - SFC Controller Changes A308 (G4301A)

Date Introduced:	December 2013
Revision:	4301A_B2_A308_009.afi, 4301A_C2_A308_009.afi
General:	
Bugfix:	• TeamTrack #019514: SFC back pressure control was too slow during gradient recovery. During recovery from a gradient run, the instrument back pressure had oscillations and it took minutes before the instrument was ready again, often it fell into the not ready time-out after 15 minutes. This was fixed and recovery is done faster now.
New Features:	• TeamTrack #018563: Implemented a new reference signal which provides either the AuxPressure signal or the AnalogIn signal following the same logic as the corresponding actual value.
OQ/PV Recommendation:	See OQ/PV - Validation Information.

SFC Pump (G4302A)

Table 456 - SFC Pump Changes A702 (G4302A)

Date Introduced:	February 2017
Revision:	4302A_A702_005
General:	
Bugfix:	• None
New Features:	• No TeamTrack: The SFC-Binary pump G4302A offers the RemoteService “SFC-CbltAndPres” (for interacting with G4303A).
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 457 - SFC Pump Changes A701 (G4302A)

Date Introduced:	May 2016
Revision:	4302A_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

SFC Autosampler (G4303A)

Table 458 - SFC Autosampler Changes A701 (G4303A)

Date Introduced:	May 2016
Revision:	4303A_A701_001, Res_A701_001
General:	
Bugfix:	• See Core Changes A.07.01
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Capillary Electrophoresis System

Capillary Electrophoresis System (CE) (G7100A)

Table 459 - Capillary Electrophoresis System Changes B.07.36 (G7100A)

Date Introduced:	March 2024
Revision:	7101A_B736_001, res_B739_003
General:	
Bugfix:	• KPR# - No KPR Sporadically blockages on the vial lifters are wrongly reported. The blockage detection was made more robust against those failure situations.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 460 - Capillary Electrophoresis System Changes B.07.35 (G7100A)

Date Introduced:	December 2021
Revision:	7101A_B735_002, res_B735_002
General:	See Core Changes B/D.07.35
Bugfix:	• KPR#565841 Fixed that the run did not automatically stop if the user wanted to perform a "blank" run and defined the StopTime for the DAD "as CE".
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 461 - Capillary Electrophoresis System Changes B.07.34 (G7100A)

Date Introduced:	September 2021
Revision:	7101A_B734_006, res_B734_006
General:	See Core Changes B.07.34
Bugfix:	• KPR# 562862 After a change of the CE-Hardware, the following adaption to the FPGA implementation was implemented: Driver output definition was changed for better EMC immunity.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 462 - Capillary Electrophoresis System Changes B.07.30 (G7100A)

Date Introduced:	May 2020
Revision:	7101A_B730_001, res_B730_005
General:	Compatibility release B.07.30. No functional changes to last released main FW revision B.07.22 (7101A_B722_001.dlb).
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 463 - Capillary Electrophoresis System Changes B.07.22 (G7100A)

Date Introduced:	September 2018
Revision:	7101A_B722_001, res_B725_006
General:	Release of Res_B725_006 FW only (no main FW update)
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 464 - Capillary Electrophoresis System Changes B.07.22 (G7100A)

Date Introduced:	September 2018
Revision:	7101A_B722_001, res_B723_009
General:	
Bugfix:	• TeamTrack #031690 CEC mode - Fixed that vials were not loaded to SEALED-position before re-applying high pressure after a vial change via timetable. • TeamTrack #031875 CEMS in combination with G7110B Infinity II Isocratic Pump - Fixed that runs immediately stopped after having aborted a previous run.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 465 - Capillary Electrophoresis System Changes B.07.21 (G7100A)

Date Introduced:	November 2017
Revision:	7101A_B721_001, res_B720_002
General:	
Bugfix:	• TeamTrack #022604: Fixed that tray occasionally initialized several times after opening tray during run.
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 466 - Capillary Electrophoresis System Changes B.07.20 (G7100A)

Date Introduced:	June 2017
Revision:	7101A_B720_006, Res_res_B720_002
General:	Compatibility release B.07.20. No functional changes to last released revisions B.07.10 [0004], B.07.01 [0001] and B.06.73 [002].
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 467 - Capillary Electrophoresis System Changes B.07.10 (G7100A)

Date Introduced:	October 2016
Revision:	7101A_B710_004, Res_B710_002
General:	Compatibility release B.07.10. No functional changes to last released revision B.07.01 [001] and B.06.73 [002].

Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Table 468 - Capillary Electrophoresis System Changes B.07.01 (G7100A)

Date Introduced:	May 2016
Revision:	7101A_B701_001, Res_B701_001
General:	Compatibility release B.07.01. No functional changes to last released revision B.06.73 [002].
Bugfix:	• None
New Features:	• None
OQ/PV Recommendation:	See OQ/PV - Validation Information.

Local Controllers

G7108AA InfinityLab Companion, G4208A Instant Pilot and G1323A/B Local Control Module

Information for the InfinityLab Companion (G7108AA), the Instant Pilot (G4208A) and the Local Control Module (G1323A/B) has been removed. It's now decanted in an individual document "Local Controller" and can be downloaded from the Agilent web, see Where To Get Latest Information.

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