Release Note for Agilent LC and CE drivers Revision A.02.12 (September edition)

Introduction

This release note provides important information for the release of Agilent LC and CE drivers A.02.12 (September edition, build SI 571.01).

Driver release A.02.12 supports following Agilent 1200 Infinity Series modules

Product Number	Name
G7129A	1260 Infinity Autosampler
G7129B	1290 Infinity II Vial Sampler
G7162A	1260 Infinity II Refractive Index Detector
G7162B	1290 Infinity II Refractive Index Detector

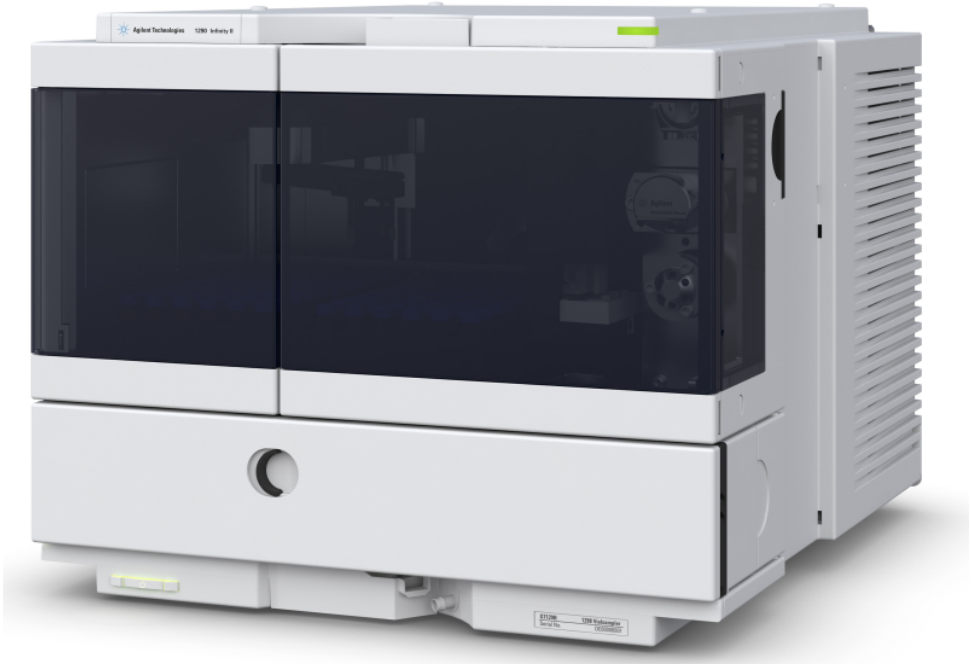
Following new driver features are being introduced:

- Integrated Column Compartment (ICC) G7130A
- Strongly enhanced custom column identification tags for Multicolumn Thermostats (MCTs) and the ICC
- Valve Thermostat Clusters (VTC)
- Dual Needle Option for Multisamplers G7167A/B
- Injector Program updates for Multisamplers
- Vialsamplers G7129A/B added to ISET 4
- New temperature control modes unchanged/equilibration
- Pressure sensor for Flexible Cube G4227A
- New purge function for preparative pump clusters

List of New Features

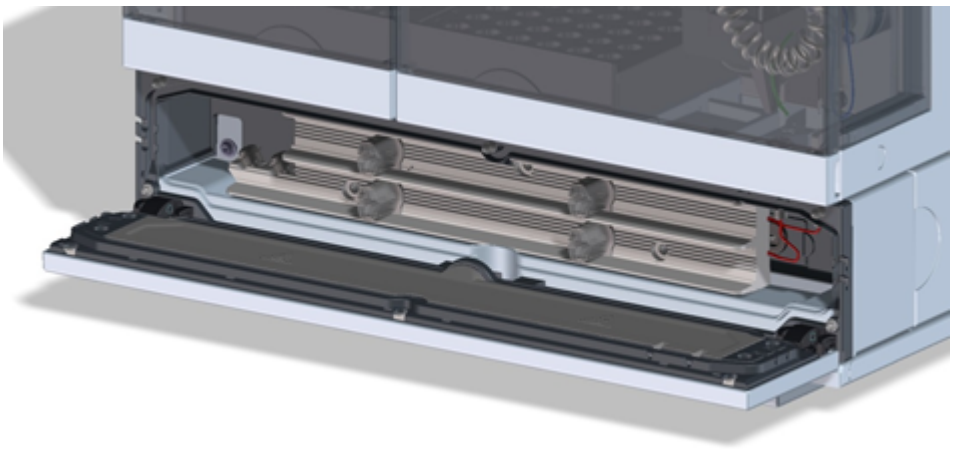
This section lists new modules and features and describes key features from a driver perspective. For details about hardware products and applications, please refer to corresponding hardware and system manuals and application notes available from http://www.agilent.com or documentation shipped with new modules. Please note that not all modules or module options listed here may already be orderable or shipping. Driver packages may include future products.

Vialsamplers G7129A/B



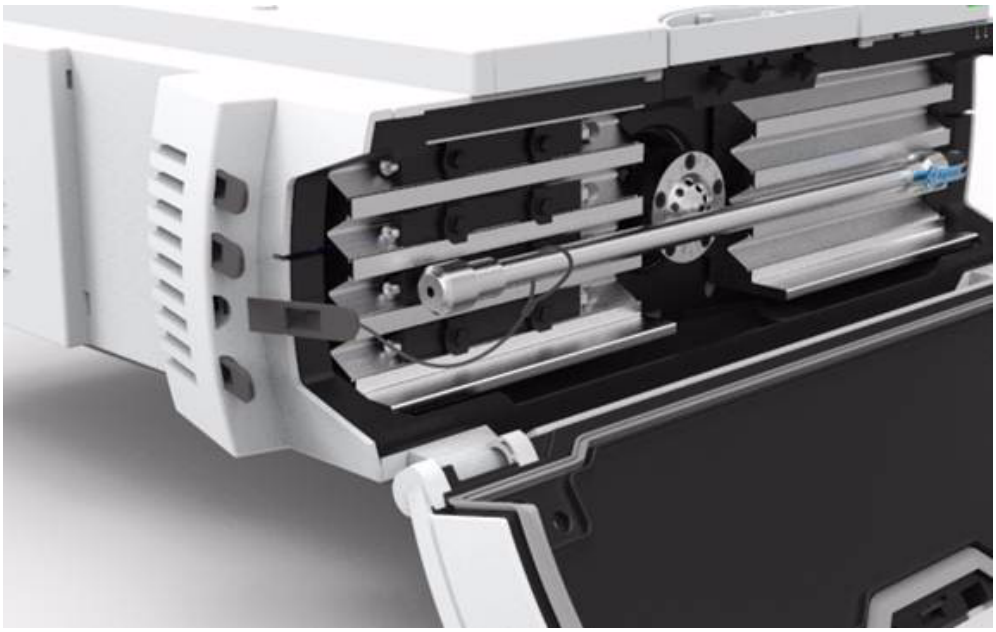
This vialsampler exists in two flavors: The 1290 Infinity II Vial Sampler G7129B is the 1300 bar variant with 20 µl sample loop and the 1260 Infinity Autosampler G7129A the 600 bar variant with 100 µl sample loop. Both modules types include a flush port by default. A cooler is optionally available. Overlapped injection is possible for fast injection cycles. Different tray types are supported such as wellplate-like trays with alphanumeric vial positions (A1) or so-called classic trays for backward compatibility to G1329A/B autosamplers. An external tray can be used for walk-up solutions. Graphical sample entry in OpenLAB ChemStation edition simplifies setting up tray content. Injector programs allow flexible handling for specialized solutions.

Integrated Column Compartment ICC G7130A



The Integrated Column Compartment G7130A is no orderable module but an optional extension of G7129A/B Vialsamplers, which has its own user interface in the driver comparable to the Multicolumn Thermostats G7116B or Thermostatted Column Compartments G1316A/B/C. The ICC offers temperature control by a regulated heater with two column locations. The ICC is available in different versions with heat exchangers in volumes of 3 µl and 6 µl. The ICC can be combined with an external valve for column switching, see valve thermostat clusters VTC below. It can optionally be equipped with a tag reader.

Column Tags



Agilent custom column tags are strongly enhanced by optional new tag readers (column identifier kit) for the Multicolumn Thermostat G7116B (8 columns and tags) and Integrated Column Compartments for Vialsamplers G7129A/B (2 columns and tags). New column tags simplify column handling a lot. By inserting a column tag to the reader of any module, all column data is automatically

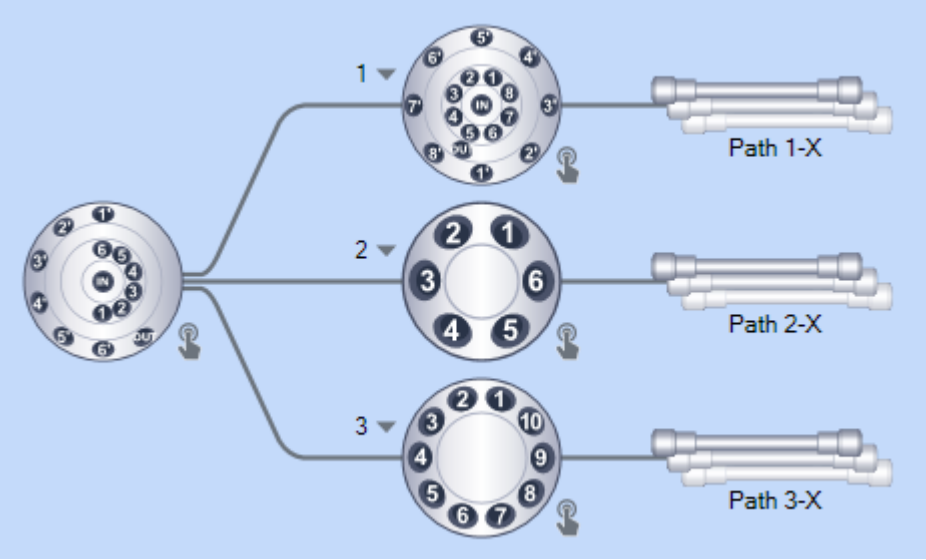
available in the user interface offered by Agilent drivers and can be used for saving column information with measurement results and reporting.

Tags store data of column properties like length, diameter, stationary phase, particle size, void volume, recommended pH range and maximum temperature and pressure, identification data like product, serial and batch number, manufacturing date, usage data like the automatically updated number of injections for that column, first and recent injection date or the maximum measured temperature and an editable comment field.

Tags will be available pre-labelled for selected Agilent columns with non-editable column properties for regulated environments or empty (custom column tag, p/n 5067-5917) for user defined content for other Agilent or third party columns. User-defined tags may be sealed after writing column specific data to the tag.

OpenLAB CDS ChemStation Edition rev. C.01.07 and below has several limitations with respect to column tag handling and supports only 2 column tags. Column tags will be fully supported with planned update SR2. For working with column tags, please refer to Technical Note G7116-90120 "New Column Identification Tags for the Agilent 1290 Infinity II Multicolumn Thermostat" shipped with column tag readers or available for download from our web site.

Valve-Thermostat Clusters



Valve-Thermostat Clusters (VTC) allow the highly flexible combination of several valves and/or column hosts for switching between up to 36 columns or flow paths. The primary application is method development solutions, which require a large variety of column types beyond 8 columns, which can be used within one Agilent Multicolumn Thermostat. Other possibilities are combining an Integrated Column Compartment with an external valve drive or any other applications, which require switching between multiple flow paths.

The VTC can be set up with 1290 Infinity II Multicolumn Thermostats G7116B, 1290 Infinity Valve Drives G1170A and 1290 Infinity Thermostatted Column Compartments G1316C as valve and/or column hosts. Thermostatted Column Compartments G1316A/B and Integrated Column Compartments G7130A are

supported as column hosts but not as valve hosts within a VTC. It comes with seven pre-defined topologies for many useful module combinations and almost unlimited combinations of Agilent Quick-Change Valve Heads. Recommended firmware: Use firmware set A.06.5x and B/C/D.06.75, see section "Recommended firmware" on page 8. Otherwise, following table lists minimum firmware revisions.

Module	Minimum module FW	Minimum host module FW
G7116B	C.06.75	B.06.75/D.06.75
G1170A	C.06.75	B.06.75/D.06.75
G7130A (within G7129A/B)	D.06.76	n/a
G1316C	A.06.55	n/a
G1316A/B	A.06.10	n/a

Dual Needle Option for Multisamplers G7167A/B

Multisamplers G7167A/B are optionally available with a second needle. This unique Agilent feature offers access to two great new possibilities: In alternating needle mode, a Smart Overlap function allows drawing the next sample while measuring the current sample. This reduces cycle times strongly while minimizing carry-over to lowest levels by flushing the alternative flow path in parallel.

As another option, two flow paths with different injection volumes are available extending the range of possible injection volumes automatically within one instrument without a need for manual changes of installations while keeping highest reproducibility for quantitation over the full range.

If the dual needle option is installed, the metering device is outside the current flow path for injection, which reduces the Multisampler delay volume significantly.

This driver adds several commands like wash, mix, valve and needle to injector programming capabilities.

Refractive Index Detectors G7162A/B

Agilent's detector portfolio is expanded by two new Refractive Index Detectors with proven performance and electronic temperature control now with a footprint matching Infinity II systems. The 1260 Infinity II Refractive Index Detector G7162A provides increased data acquisition rates of up to 74 Hz. The 1290 Infinity II Refractive Index Detector G7162B offers 148 Hz data acquisition rate and uses a micro flow cell for lowest peak broadening.

More Driver Features

Installing driver A.02.12 adds Vialsamplers G7129A/B to the set of possible emulating and emulated modules for ISET 4. Please note that the version of ISET does not change and ISET 4 V1.0 refers to the calculation model, not to the set of characterized modules.

The Flexible Cube G4227A includes now a pressure sensor, which can be used for monitoring the pressure e.g. when using the flush pump in Online SPE applications and loading trapping columns.

New temperature control modes allow flexible control for Multicolumn Thermostats G7116B, Integrated Column Compartments G7130A and Valve-Thermostat Clusters. Temperature mode "unchanged" keeps the selected temperature zone at the temperature of previous runs unless a change is required by other active columns in the same zone. This mode gives better flexibility for sequence programming and avoids unwanted cooling/heating cycles for columns currently not being used. An equilibration mode allows flushing a column at a certain temperature before the next run is started. This avoids additional programming steps e.g. in sequence tables. New temperature control modes require latest firmware, which are C.06.75 for Multicolumn Thermostats G7116 (and host modules with firmware B/D.06.75) and D.06.76 for the Integrated Column Compartment G7130A as a part of Vialsamplers G7129A/B.

The Variable Temperature Mode for Multisamplers G7167A/B and Vialsamplers G7129A/B allows changing the thermostat temperature by method. This can be used for changing the sampler content temperature from run to run for all samples currently being present. This option has been requested by several customers but should be used with care. Recommended option stays the Constant Temperature Mode, which keeps samples at a constant temperature for all runs unless the configuration is changed.

Prep Pump Clusters allow now purging through different purge valves. When using a composition for the purge flow, all channels contributing to that flow will open corresponding purge channels. Channel A purge valve is always open as before. See "Impact Analysis" on page 8.

Compatibility Matrix

The compatibility matrix provides information about installation and execution prerequisites with respect to hardware, firmware, the operating system.

Supported Operating Systems

The following operating systems are supported:

- Windows 7 SP1 (32 Bit / 64 Bit)
- Windows Server 2008 R2 (64 Bit)
- Windows 8.1 (32 Bit / 64 Bit)
- Windows Server 2012 R2 (64 Bit)

Supported Chromatographic Data Systems (CDS)

This driver has been tested with:

OpenLAB CDS ChemStation Edition	C.01.07 [110] SR 1 C.01.06 [84] HF 4 C.01.05 [50] SP1 HF 1 C.01.04 [51] HF 7 C.01.03 [50] HF 9
OpenLAB CDS EZChrom Edition	A.04.07 [028] Hotfix CDSEE0407 SR1 A.04.06 A.04.05 Update 7

NOTE

Revisions of OpenLAB CDS ChemStation Edition C.01.04 and below cannot handle Vialsampler G7129A/B trays with wellplate-like coordinates like A1, B5 etc. For such software revisions, please use classic trays with continuously numbered plate positions. See also SSB, KPR #84. Revisions C.01.03 and C.01.04 require a different installer, see "Installation" on page 9, which has been added for the September edition of this driver.

Agilent drivers can also be used with other CDSs like MassHunter workstation and third party CDSs through the instrument control framework (ICF). Such CDSs require dedicated installers not included to standard driver media. Some of the functionality offered by the drivers may be supported by all CDSs. Please refer to the corresponding CDS and ICF documentation.

Recommended firmware

Driver release A.02.12 has been tested and recommends the firmware set with following revisions or any later firmware:

Device	Firmware
Agilent 1100 Series, 1200 Series and 1200 Infinity	A.06.5x
Agilent 1200 Series, 1200 Infinity and 1120 Compact LC	B.06.75
Agilent 1200 Infinity Hosted Modules	C.06.75
Agilent 1290 Infinity II Modules	D.06.75
Vialsamplers G7129A/B Refractive Index Detectors G7162A/B	D.06.76

Software Solutions

Agilent offers several add-ons to its CDSs like the Method Scouting Wizard, 2D-LC software, Buffer Advisor etc. These add-ons are based on the CDS, not on the driver. For compatibility information, please consult documentation for the add-on or CDS.

Impact Analysis

A driver update changes the part of the Chromatographic Data System, which is responsible for instrument control, such as instrument configuration, method parameters, control functions and instrument signals. The Agilent Software Development Lifecycle includes extensive quality tests of all new software features as well as regression tests for existing functionality. Therefore, driver upgrades are considered to be of low risk.

Agilent recommends the following re-validation activities after installation of the release specified in this document:

	YES	NO
Verify the Software Installation using the Agilent Software IQ	X	
Use change control with customer's revalidation plan	X	
Review the new or changed functionality of the release and revalidate the affected workflows based on the intended use of the software.	X	
Execute complete system revalidation		X

Following table lists changes of the driver software that may cause a different behavior or performance with existing methods or change the system behavior in

other ways that may require attention. Methods using related features should be reviewed in such cases in order to avoid unexpected or unwanted changes. For changes of interest, please look up the KPR# in the Software Release Bulletin (SRB) or Software Status Bulletin (SSB), see also section Other Documents. The impact classification is described in the Appendix, read below "Appendix A: Classification Codes of Software Changes" on page 11.

Impact	KPR#	SSB/SRB Problem Description Title
Minor	83	Purge function has been improved for Preparative Pump Clusters
Minor	82	Import/export functionality in Column Assignment dialog of the Multicolumn Thermostat has been removed
Major	77	Implementation of seal wash function has been improved for G4220A/B and G4204A

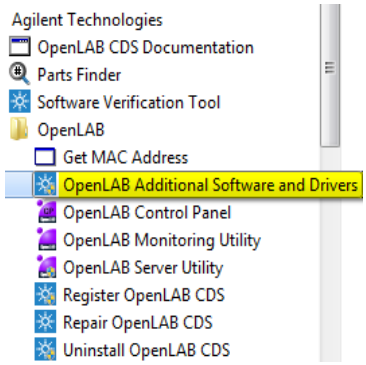
Installation

Drivers are installed by the Agilent or third party Chromatography Data System (CDS) installer, e.g. the Agilent OpenLab Master Installer. Installation prerequisites like CPU, memory and hard drive space are also mainly determined by the underlying CDS. Please refer to documentation of the CDS installer for installation, updates and uninstallation.

The driver media contains 3 installation packages. Please select the correct package for your CDS.

CDS	Installation Package Version
ChemStation C.01.07/C.01.06/C.01.05	A.02.12 [032]
ChemStation C.01.04/C.01.03	A.01.04 [100]
EZChrom A.04.07/A.04.06/A.04.05	A.02.12 [022]

For OpenLAB, please use "OpenLAB Additional Software and Drivers" for installing the driver from the Windows Start Menu.



Drivers for the ELSD are located in the "More Drivers" folder.

Other Documents

The driver DVD includes more documents with further information:

Software Status Bulletin (SSB): The Software Status Bulletin lists known limitations and incompatibilities and information about available fixes or workarounds for this and previous versions

Software Release Bulletin (SRB): The Software Release Bulletin bulletin is an excerpt from the SSB which lists issues which have been fixed with this revision.

SSB and SRB are included to the driver CD and can be found in folder documentation

The SSB is updated regularly. Please visit our Website for the latest version at http://www.chem.agilent.com/Library/Support/Patches/SSBs/LC_RC_Net.html.

Firmware and firmware documentation are available for download from http://www.chem.agilent.com/_layouts/agilent/downloadFirmware.aspx?whid=69761.

ELSD specific information is located in the folder “More Drivers\ G4260-60012_ELSD-Drivers”.

For detailed information on new modules and features, please refer to the driver online help (press F1 button in the driver user interface, e.g. in the module dashboard) and corresponding module manuals, which are available at http://www.agilent.com.

Updates

Agilent continuously improves its drivers, firmware and software and recommends using latest updates. If applicable, any updates or bug fix releases for this driver package are available from Subscribenet at https://agilent.subscribenet.com.

Appendix A: Classification Codes of Software Changes

The following classification codes for software changes are used in this document:

Classification	Definition
Major	Software changes with an appreciable effect on the operational characteristics and reliability of the product and its fitness for the intended purpose, relative to the previous version. Major software changes typically warrant full re-qualification of the system or the execution of detailed acceptance tests at least in the affected areas. Examples for major software changes in chromatography data systems are modified or new algorithms, calculation changes, storage format changes for central system functions such as integration or quantification of chromatographic signals.
Minor	Changes with no appreciable negative effect on the operational characteristics and reliability of the product and its fitness for the intended purpose relative to the previous version. Minor software changes typically result in one or multiple modified system files. The installation of an update or service release containing minor software changes typically requires the execution of the updated qualification protocols specified and provided by the supplier.

Appendix B: Modules and Minimum required firmware

In the following sections this guide summarizes the instruments and modules for which drivers are available from Agilent and lists the minimum required firmware.

Agilent uses several different firmware architectures, which are based on different underlying electronic architectures and are indicated by a different letter A/B/C/D:

Revision A:	Electronic architecture of Agilent 1100 Series, 1200 Series and 1200 Infinity modules. This is the architecture used by recent and historic modules.
Revision B:	Electronic architecture of many Agilent 1200 Series and 1200 Infinity modules. This architecture is used by many modules with high computing performance or data acquisition rates like recent VWD, DAD and MWD detectors or 1290 Infinity pumps.
Revision C:	This architecture is used by hosted modules. Hosted modules have a mainboard with reduced complexity and require a hosting module with revision B or D firmware.
Revision D:	This architecture is used by 1290 Infinity II modules like G7114B and G7117A/B detectors and G7167A/B Multisamplers.

Agilent recommends always using the most recent firmware revisions which include latest firmware features and improvements. Drivers are forward compatible with respect to firmware, i.e. the firmware can be updated without the need of updating the driver or CDS.

This table lists the minimum required firmware for all modules supported by the driver. For recommended firmware, please refer to "Recommended firmware" on page 8. Please note that all modules in a system need to use compatible firmware from one firmware set. Please refer to firmware documentation for details, see "Other Documents" on page 10.

Please note that using some driver features like valve-thermostat clusters and new temperature control modes require firmware updates beyond this list for related modules, see "List of New Features" on page 2 for details.

Agilent LC – Pumps

Product Number	Module Name	Minimum Required Firmware Revision
G1310A	1100 Series Isocratic Pump	A.06.10
G1310B	1260 Infinity Isocratic Pump	A.06.32
G1311A	1100 Series Quaternary Pump*	A.06.10
G1311B	1260 Infinity Quaternary Pump*	A.06.32
G1311C	1260 Infinity Quaternary Pump VL*	A.06.32
G1312A	1260 Infinity Binary Pump*	A.06.10
G1312B	1260 Infinity Binary Pump SL*	A.06.10
G1312C	1260 Infinity Binary Pump VL*	A.06.32
G1361A	1260 Infinity Preparative Pump Cluster with up to 4	A.06.50
G1376A	1260 Infinity Capillary Pump	A.06.10
G2226A	1260 Infinity Nanoflow Pump	A.06.10
G4204A	1290 Quaternary Pump*	B.06.50
G4220A	1290 Infinity Binary Pump*	B.06.23
G4220B	1290 Infinity Binary Pump VL*	B.06.43
G4302A	1260 Infinity SFC Binary Pump*	A.06.32
G5611A	1260 Infinity Bio-inert Quaternary Pump*	A.06.32
G7104A	1290 Infinity II Flexible Pump	B.06.71
G7120A	1290 Infinity II High Speed Pump	B.06.71

* Pump valve clusters are possible for marked pumps with up to 2 valves of type G1160A and/or G1170A

Agilent LC - Sampling Systems

Product Number	Module Name	Minimum Required Firmware Revision
G1313A	1100 Series Standard Autosampler	A.06.10
G1329A	1100 Series Standard Autosampler	A.06.10
G1329B	1260 Infinity Standard Autosampler	A.06.10
G1367A	1100 Series Well-plate Sampler	A.06.31
G1367B	1200 Series High Performance Autosampler	A.06.31
G1367C	1200 Series High Performance Autosampler SL	A.06.31
G1367D	1200 Series High Performance Autosampler SL+	A.06.31
G1367E	1260 Infinity High Performance Autosampler	A.06.32
G1377A	1260 Infinity High Performance Micro Autosampler	A.06.12
G1389A	1100 Series Micro Thermostatted Autosampler	A.06.10
G2258A	1260 Infinity Dual-Loop Autosampler	A.06.50
G2260A	1260 Infinity Preparative Autosampler (High flow)	A.06.50
G4226A	1290 Infinity Autosampler	A.06.31
G4303A	1260 Infinity SFC standard autosampler	A.06.54
G5667A	1260 Infinity Bio-inert Autosampler	A.06.32
G7167A	1260 Infinity Multisampler	D.06.60
G7167B	1290 Infinity II Multisampler	D.06.60
G7129A	1260 Infinity Autosampler	D.06.76
G7129B	1290 Infinity II Vial Sampler	D.06.76

Agilent LC – Column Compartments

Product Number	Module Name	Minimum Required Firmware Revision
G1316A	1260 Infinity Thermostatted Column Compartment	A.06.10
G1316B	1200 Series Column Compartment SL	A.06.10
G1316C	1200 Series Thermostatted Column Compartment SL*	A.06.14
G7116B	1290 Infinity II Multicolumn Thermostat (Host required)	C.06.75 (B.06.75/D.06.75)
G7130A	Integrated Column Compartment ICC	D.06.76

* Cluster with up to three G1316C with integrated 8pos/9port valves (products G4230A/B). Minimum two G1316C TCCs, the third TCC can be a G1316A, B or C.

Agilent LC – Detectors

Product Number	Module Name	Minimum Required Firmware Revision
G1314A	1100 Series Variable Wavelength Detector	A.06.10
G1314B	1200 Series Variable Wavelength Detector	A.06.10
G1314C	1200 Series Variable Wavelength Detector	A.06.10
G1314D	1200 Series Variable Wavelength Detector	B.06.32
G1314E	1290 Infinity Variable wavelength Detector	B.06.32
G1314F	1260 Infinity Variable wavelength Detector	B.06.32
G1315A	1100 Series Diode Array Detector	A.06.10
G1315B	1200 Series Diode Array Detector	A.06.10
G1315C	1200 Series Diode Array Detector VL+	B.06.30
G1315D	1200 Series Diode Array Detector VL	B.06.30
G1365A	1100 Series Multiple Wavelength Detector	A.06.10
G1365B	1100 Series Multiple Wavelength Detector	A.06.10
G1365C	1260 Infinity Multiple Wavelength Detector	B.06.30
G1365D	1260 Infinity Multiple Wavelength Detector VL	B.06.30
G1321A	1100 Series Fluorescence Detector (FLD)	A.06.10
G1321B	1260 Infinity Fluorescence Detector	A.06.32
G1321C	1260 Infinity Fluorescence Detector	A.06.54
G1362A	1260 Infinity Refractive Index Detector	A.06.10
G4212A	1290 Infinity Diode Array Detector	B.06.30
G4212B	G4212B 1260 Infinity Diode Array Detector	B.06.30
HDR-DAD Cluster	2x G4212A or 2x G4212B or a combination of 1x G4212A and 1x G4212B	B.06.57
G7114B	1290 Infinity II Variable Wavelength Detector	D.06.70
G7117A	1290 Infinity II Diode Array Detector	D.06.70
G7117B	1290 Infinity II Diode Array Detector FS	D.06.70
G4218A	1260 Infinity Evaporative Light Scattering Detector	1.3
G4260A	380-ELSD	25.00
G4261A	385-ELSD	25.00
G4260B	1260 Infinity Evaporative Light Scattering Detector	30.35
G4261B	1290 Infinity Evaporative Light Scattering Detector	30.35
G7102A	1290 Infinity II Evaporative Light Scattering Detector	30.42

Product Number	Module Name	Minimum Required Firmware Revision
G7162A	1260 Infinity II Refractive Index Detector	D.06.76
G7162B	1290 Infinity II Refractive Index Detector	D.06.76

Agilent LC – Valves, Valve Drives and Clusters

Product Number	Module Name	Minimum Required Firmware Revision
G1156A	1200 Series 6 Position / 7 Port Valve (400 bar)	A.06.02
G1157A	1200 Series 2 Position / 10 Port Valve	A.06.02
G1158A	1200 Series 2 Position / 6 Port Valve	A.06.02
G1158B	1200 Series 2 Position / 6 Port Valve (600bar)	A.06.02
G1159A	1200 Series 6 Position Selection Valve	A.06.02
G1160A	1100 Series Multiple Purpose Switching Valve (12 Position / 13 Port)	A.06.02
G1162A	1200 Series 2 Position/ 6 Port Micro Valve	A.06.02
G1163A	1200 Series 2 Position/ 10 Port Micro Valve	A.06.02
G1170A	1290 Infinity Valve Drive (Host required)	C.06.40 (B.06.40/D.06.60)
VTC	Combinations of G7116B, G1170A and G1316C (valve or column hosts) and G1316A/B and G7130A (column hosts)	see "Valve-Thermostat Clusters" on page 4

VTC: Combinations of G7116B, G1170A and G1316C (valve or column hosts) and G1316A/B and G7130A (column hosts).

Agilent LC – Other Module types

Prduct Number	Module Name	Minimum Required Firmware Revision
G1390A	1100 Series Universal Interface Box (UIB)	A.06.02
G1390B	1200 Infinity Series Universal Interface Box II (Host required)	C.06.53 (B.06.53/D.06.60)
G4227A	1290 Infinity Flexible Cube (Host required)	C.06.52 (B.06.52/D.06.60)
G1364A	1100 Series Automatic Fraction Collector Cluster of up to 3*	A.06.53
G1364B	1260 Infinity Fraction Collector (preparative-scale) Cluster of up to 3*	A.06.53
G1364C	1260 Infinity Fraction Collector (analytical-scale) Cluster of up to 3*	A.06.53

Prduct Number	Module Name	Minimum Required Firmware Revision
G1364D	1100 Series Micro Fraction Collector	A.06.53
G5664A	1260 Infinity Bio-inert fraction collector AS	A.06.53
G4240A	Chip Cube	A.06.36
G4301A	1260 Infinity Analytical SFC System	A.03.07

* Any combination of G1364A/B/C or G5664A plus a fourth G1364A/B/C or G5664A for recovery can be clustered. Multiple single Fraction Collectors are not supported

Agilent LC Systems

Product Number	Module Name	Minimum Required Firmware Revision
G4286A	1120 Compact LC, Isocratic	B.06.50
G4286B	1220 Infinity LC System Isocratic, Man. Inj., VWD, 600 bar	B.06.50
G4287A	1120 Compact LC, Isocratic with Oven and ALS	B.06.50
G4287B	1220 Infinity LC Isocratic, ALS, TCC, VWD, 600 bar	B.06.50
G4288A	1120 Compact LC, Gradient	B.06.50
G4288B	1220 Infinity LC Gradient, Man. Inj., VWD, 600 bar	B.06.50
G4289A	1120 Compact LC, Gradient with Oven	B.06.50
G4289B	1220 Infinity LC Gradient, ALS, TCC, VWD, 600 bar	B.06.50
G4290A	1120 Compact LC,Gradient with oven and ALS	B.06.50
G4290B	1220 Infinity LC Gradient, ALS, Man. Inj., TCC, VWD, 600 bar	B.06.50
G4291B	1220 Infinity LC Isocratic, Man. Inj., TCC, VWD, 600 bar	B.06.50
G4292B	1220 Infinity LC Isocratic, ALS, VWD, 600 bar	B.06.50
G4293B	1220 Infinity LC Gradient, ALS, VWD, 600 bar	B.06.50
G4294B	1220 Infinity LC Gradient, ALS, TCC, DAD, 600 bar	B.06.50
G4286C	1220 Infinity LC System VL, Isocratic, Man. Inj., VWD, 400 bar	B.06.50
G4287C	S1220 Infinity LC System VL, Isocratic, ALS, TCC, VWD, 400 bar	B.06.50
G4288C	1220 Infinity LC System VL, Gradient, Man. Inj. VWD, 400 bar	B.06.50
G4289C	1220 Infinity LC System VL, Gradient, Man. Inj. VWD, 400 bar	B.06.50

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Product Number	Module Name	Minimum Required Firmware Revision
G4290C	1220 Infinity LC System VL, Gradient, ALS, TCC, VWD, 400 bar	B.06.50
G4291C	1220 Infinity LC System VL, Isocratic, Man. Inj. TCC, VWD, 400 bar	B.06.50
G4292C	1220 Infinity LC System VL, Isocratic, ALS, VWD, 400 bar	B.06.50
G4293C	1220 Infinity LC System VL, Gradient, ALS, VWD, 400 bar	B.06.50

Agilent CE Firmware Information

Product Number	Module Name	Minimum Required Firmware Revision
G7150A	G7100 Capillary Electrophoresis II	B.06.25
G7151A	Diode Array Detector for CE	B.06.25

NOTE There are dependencies between firmware revisions that can be combined in one LC or CE system.

All firmware revisions need to belong to one set. For obtaining and updating firmware and for detailed information about compatibility between firmware revisions please visit our web site at http://www.chem.agilent.com/_layouts/agilent/downloadFirmware.aspx?whid=69761

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