



Waters
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Agilent ICF Support v3.0

Release Notes

716004817
Revision A

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Agilent ICF Support v3.0

These release notes explain how to install Waters ICF Support version 3.0 for the Agilent Instrument Control Framework (ICF), for control of all supported Agilent LC and GC modules. This software is intended for use in conjunction with Empower 3 software in English, Japanese, and Chinese (simplified).

Compliance recommendations

Any time you install, change, or uninstall software or system modules in a regulated environment, Waters recommends that you follow your organization's approved standard operating procedures.

A risk-based review may assist you in a regulated environment to evaluate changes detailed in the release notes. Using company SOPs, determine if any documentation updates and requalification of the system modules, chromatographic system, or chromatographic data system (CDS) are required.

Requalification with Waters' Total Assurance Plans

The Waters' Total Assurance Plan (TAP) with System Qualification Option covers upgrades and requalification of the instrument driver, software, firmware, or hardware in these cases:

- During yearly requalification, as provided in the plan.
- If installing this release is required for operation of a new module or system, where qualification of the new module or system is covered by the plan.

Requalification of the CDS software and computers after a driver upgrade may or may not be included in your TAP.

Review your TAP to determine which services are covered and which are not covered. For situations not covered by the plan, Waters can perform the qualification, but additional charges will apply.

New features

This release provides the following new features:

- Agilent ICF Support v3.0 distributes Agilent ICF version A.02.04 with LC drivers version A.02.14 and GC drivers version A.03.02.
- The text files in the `AgilentPlatesForImport` folder were reviewed and updated.

See: [55838](#).

- Support for Empower 3 systems running on the Microsoft Windows 10 operating systems. Empower 3 Feature Release 4 (FR4) is required for Windows 10 support.
- For GC injections, the injection volume in the sample set overrides any injection volume in the instrument method editor. In order to use the default injection volume in the instrument method editor, specify an injection volume of 29999.99 µL in the sample set.

Driver compatibility

This release of Agilent ICF Support (version 3.0) provides support for the Agilent ICF modules in ICF version A.02.04 with ICF-LC drivers version A.02.14 and ICF-GC drivers version A.03.02. Instrument control using the Agilent ICF, ICF-LC Drivers, and ICF-GC Drivers is separate from and compatible with previous instrument control using legacy ICS instrument drivers such as A1100 LC (v1.06), 7890 GC (v2.6), 6850 GC (v1.40), G1888A and HS7697 headspace samplers (v3.0), and with legacy Empower control for the 6890 GC. Installed legacy instrument control will continue to operate with the systems for which it is specified. In order to allow access to legacy instrument methods, the legacy drivers should remain installed on your Empower system.

GC Control Considerations

Keep in mind these considerations when updating to Agilent ICF version 3.0:

- Older Agilent drivers (6890 GC, 7890 GC, 6850 GC, G1888A, HS 7697A) are compatible with Agilent ICF version 3.0 drivers. There is no need to uninstall them.
- You must use Ethernet to connect to the GC instruments. RS232 serial communication is not supported.
- When configuring multiple injection sources in a GC system, the first priority order for injection devices is headspace, followed by autosampler, followed by a valve.
- If more than one gas sampling valve is connected, the first valve is always assigned as the injection source.
- When running samples, the following headspace rules still apply:
 - Within the sample set, ensure that vials run contiguously from low to high.
 - Do not select **Abort and continue**, select **Abort**.
 - Do not **Pause** a sample set.
 - Do not select **Alter running sample set**.
 - Do not perform single injections, use only sample sets.
 - Do not change the **injection volume** in a sample set method. Leave this field at its default value.

- Number of injections must equal 1. No replicates.
- Within a headspace sample set method, all instrument methods must be the same.
- For this release of ICF Support, the headspace feature of Multiple Headspace Extraction (MHE) is not supported.

GC rules:

- You cannot bring two Agilent 7890 or 7820 GCs (or a combination of an Agilent 7890 and an Agilent 7820 GC) online on the same LAC/E module, acquisition client, or Empower workstation.
- GC dual tower functionality is not supported.
- Do not create a GC instrument method offline. To view GC parameters in the instrument method editor, you must scan and configure the instrument at least one time.
- For Agilent 6890 and 7890 GCs, injections from the front and back injector towers are configured in this manner:
 - Vial numbers 1-150 are injected using the front injector tower.
 - Vial numbers 501-650 are injected using the back injector tower.
 - Vial numbers 701-703 are injected using the single vial turret of the back injector tower.

Note: No front and back namings are used to differentiate between the injectors, such as legacy Agilent 6890 and 7890 GCs. For example, F1, B2 are not supported by the ICF-GC drivers.

- For GC instruments, auto configuration only works with the Agilent 7890B GC.

Note: Also see [Known issues](#)

System and software requirements

The following table lists the operating system requirements for this release of the ICS.

Application Software	Empower Feature Release/ Service Pack	Operating system
Empower 3 software: English, Japanese, and Chinese (Simplified)	Prior to Feature Release 3	<ul style="list-style-type: none"> • Windows 7 SP1 (64-bit) • Windows Server 2008 R2 SP1 Enterprise (64-bit)

Application Software	Empower Feature Release/ Service Pack	Operating system
Empower 3 software: English, Japanese, and Chinese (Simplified)	Feature Release 3	<ul style="list-style-type: none"> Windows 7 SP1 (64-bit) Windows 8.1 Windows Server 2008 R2 SP1 Enterprise or Standard (64-bit) Windows Server 2012 R2, Standard Edition (64-bit)
Empower 3 software: English, Japanese, and Chinese (Simplified)	Feature Release 4 and higher	<ul style="list-style-type: none"> Windows 7 SP1 (64-bit) Windows 10 Professional or Enterprise (64-bit) Windows Server 2008 R2 SP1 Enterprise or Standard (64-bit) Windows Server 2012 R2, Standard Edition (64-bit)

The computer configurations, operating systems, and hotfixes supported by this software are identical to those for Empower 3 software. If your Empower system is an earlier version or feature release, you cannot install this software. Refer to the *Empower 3 Installation, Configuration, and Upgrade Guide* and the appropriate release notes for details. For incremental information on operating system and hotfix support, visit the Waters website (www.waters.com).

Supported modules and firmware

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

Product Number	Module Name	Minimum Required Firmware Revision
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 four	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
G5611A	1260 Infinity Bio-Inert Quaternary Pump*	A.06.32
G4302A	1260 Infinity SFC Binary Pump*	A.06.32
G7104A	1290 Infinity II Flexible Pump	B.06.71
G7110B	1260 Infinity II Isocratic Pump	D.07.01
G7111A	1260 Infinity II Quaternary Pump VL*	D.07.01
G7111B	1260 Infinity II Quaternary Pump VL*	D.07.01
G7112B	1260 Infinity II Binary Pump	D.07.01
G7120A	1290 Infinity II High-Speed Pump	B.06.71
G5654A	1260 Infinity II Bio-Inert Quaternary Pump*	D.07.01

*Pump valve clusters are possible for marked pumps with up to two 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

Product Number	Module Name	Minimum Required Firmware Revision
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
G5668A	1260 Infinity II Bio-Inert Multisampler	D.07.01
G7167A	1260 Infinity II Multisampler	D.06.60
G7167B	1290 Infinity II Multisampler	D.06.60
G7129A	1260 Infinity II Vialsampler	D.06.76
G7129B	1290 Infinity II Vialsampler	D.06.76
G7157A	1260 Infinity II Preparative Autosampler	D.07.01

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

Product Number	Module Name	Minimum Required Firmware Revision
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	1260 Infinity Diode Array Detector	B.06.30
HDR-DAD Cluster (G4212A/B)	2x G4212A or 2x G4212B or a combination of 1x G4212A and 1x G4212B	B.06.57
G7114A	1260 Infinity II Variable Wavelength Detector	D.07.01
G7114B	1290 Infinity II Variable Wavelength Detector	D.06.70
G7115A	1260 Infinity II Diode Array Detector WR	D.07.01
G7117A	1290 Infinity II Diode Array Detector	D.06.70
G7117B	1290 Infinity II Diode Array Detector FS	D.06.70
G7117C	1260 Infinity II Diode Array Detector HS	D.07.01
HDR-DAD Cluster (G7117A/B)	2x G7117A or 2x G7117B or a combination of 1x G7117A and 1x G7117B	D.06.70
G7121A	1260 Infinity II Fluorescence Detector	D.07.01
G7121B	1260 Infinity II Fluorescence Detector Spectra	D.07.01
G7165A	1260 Infinity II Multiple Wavelength Detector	D.07.01
G7162A	1260 Infinity II Refractive Index Detector	D.06.76
G7162B	1290 Infinity II Refractive Index Detector	D.06.76

Agilent LC - ELS Detectors

Table 1–1: Supported Evaporative Light-Scattering (ELS) Detectors

Product Name	Module Name	Minimum Required Firmware Revision
G4260B	Agilent 1260 Infinity/Infinity II ELSD RS-232 serial communication	31.06

Table 1–1: Supported Evaporative Light-Scattering (ELS) Detectors (continued)

Product Name	Module Name	Minimum Required Firmware Revision
G7102B	Agilent 1290 Infinity II ELSD Ethernet connection	31.06

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
G7116A	1260 Infinity II Multicolumn Thermostat	D.07.01
G7116B	1290 Infinity II Multicolumn Thermostat [firmware for host module in brackets]	C.07.01 [B.07.01/D.07.01]
G7130A	Integrated Column Compartment ICC	D.06.76

* Cluster with up to three G1316Cs with integrated 8pos/9port valves (products G4230A/B). Minimum two G1316C TCCs; the third TCC can be a G1316A, B, or C.

Agilent LC - Valve thermostat cluster (VTC)

The valve thermostat cluster (VTC) is a combination of G7116B, G1170A, and G1316C, as valve or column hosts, and G1316A/B and G7130A, as column hosts.

Table 1–2: Supported Valve Thermostat Cluster (VTC) firmware

Module	Minimum module firmware	Minimum host module firmware
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

Agilent LC - Valves and Valve Drives

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 (600 bar)	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 [firmware for host module in brackets]	C.06.40 [B.06.40/D.06.60]

Agilent LC - Other module types

Product 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 [firmware for host module in brackets]	C.06.53 [B.06.53/D.06.60]
G4227A	1290 Infinity Flexible Cube [firmware for host module in brackets]	C.06.52 [B.06.52/D.06.60]
G1364A	1100 Series Automatic Fraction Collector cluster of up to three*	A.06.53
G1364B	1260 Infinity Fraction Collector (preparative-scale) cluster of up to three*	A.06.53
G1364C	1260 Infinity Fraction Collector (analytical-scale) cluster of up to three*	A.06.53
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

* You can cluster any combination of G1364A/B/C or G5664A plus a fourth G1364A/B/C or G5664A for recovery. Multiple individual 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
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

Product Number	Module Name	Minimum Required Firmware Revision
G4293C	1220 Infinity LC System VL, Gradient, ALS, VWD, 400 bar	B.06.50

Agilent - CE Systems

Product Number	Module Name	Minimum Required Firmware Revision
G7100A	G7100A Capillary Electrophoresis II with the internal components: <ul style="list-style-type: none"> G7150A CE Mainframe G7151A DAD 	B.06.73

Supported Gas Chromatography Hardware

Agilent GC Model Number	Module Name	Inlets (described below)	Detectors (described below)
7890B and 7890A+	G3440B	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI, MMI, HT-PTV	μECD, Dual W FPD, AIB, XCD
	G3442B	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI, MMI, HT-PTV	μECD, Dual W FPD, AIB, XCD
	G3443B	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI, MMI, HT-PTV	μECD, Dual W FPD, AIB, XCD
	G3445B	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI, MMI, HT-PTV	μECD, Dual W FPD, AIB, XCD
7890A	G3440A	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI, MMI, HT-PTV	μECD, Dual W FPD, AIB
	G3442A	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI, MMI, HT-PTV	μECD, Dual W FPD, AIB
	G3443A	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI, MMI, HT-PTV	μECD, Dual W FPD, AIB
	G3445A	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,

Agilent GC Model Number	Module Name	Inlets (described below)	Detectors (described below)
		PCM, VI, MMI, HT-PTV	μECD, Dual W FPD, AIB
7820	G4350A	S/S, P/P	TCD, FID, NPD, μECD
6890A	G1530A	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI	μECD, Dual W FPD, AIB
	G1540A	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI	μECD, Dual W FPD, AIB
6890Plus	G1530A	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI	μECD, Dual W FPD, AIB
	G1540A	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI	μECD, Dual W FPD, AIB
6890N	G1530N	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI	μECD, Dual W FPD, AIB
	G1540N	S/S, P/P, COC, PTV,	TCD, FID, NPD, FPD ECD,
		PCM, VI	μECD, Dual W FPD, AIB
6850	G2630A	S/S, P/P, COC, PTV,	TCD, FID, FPD, uECD,
			AIB
6850	G2630B	S/S, P/P, COC, PTV	TCD, FID, FPD, uECD,
			AIB

Table 1–3: Inlet descriptions

Inlet abbreviation	Description
S/S	Split/Splitless
P/P	Purged/Packed
COC	Cool On-Column
PTV	Programmable Temperature Vaporization
PCM	Pneumatics Control Module
VI	Volatiles Interface
MMI	Multimode Inlet
HT-PTV	High Temp-PTV

Table 1–4: Detector descriptions

Detector abbreviation	Description
TCD	Thermal Conductivity Detector
FID	Flame Ionization Detector
NPD	Nitrogen Phosphorus Detector
FPD	Flame Photometric Detector
μECD	micro Electron Capture Detector
Dual W FPD	Dual Wavelength Flame Photometric Detector
AIB	Analog Input Board
XCD	(Sulphur or Nitrogen) Chemiluminescence Detector
ECD	Electron Capture Detector

Agilent Gas Chromatograph and Headspace Firmware

Product Number	Communication Type	Minimum Firmware
Agilent 6890 Series I and II Gas Chromatograph	Ethernet	A.03.08
Agilent 6890A and 6890+ Gas Chromatograph	Ethernet	A.03.08
Agilent 6890N Gas Chromatograph	Ethernet	N.06.07
Agilent 6850 Series Gas Chromatograph serial number < 10243001	Ethernet	A.03.07
Agilent 6850 Series II Network Gas Chromatograph serial number > 10243001	Ethernet	A.06.02
Agilent 7890A Gas Chromatograph	Ethernet	A.01.16
Agilent 7890B Gas Chromatograph	Ethernet	B.02.04
Agilent G1888A Headspace Autosampler	Ethernet	A.01.10
Agilent HS7697A Headspace Sampler	Ethernet	A.01.07.1

Supported plates and trays for LC autosamplers

For LC modules, the following plates and trays are supported with plate definition text files that you can import into Empower software.

Plate or tray type	Size/Volume	Text File Name
96 well plate	500 uL	ANSI96Well500ul.txt
54 vial plate	1500 uL	ANSIAgilent54VialPlate1500ul.txt
96 deep well plate	1.0ml (Agilent3)	96DeepAgilent3.txt
96 deep well plate	1.0ml (Agilent4)	96DeepAgilent4.txt
96 deep well plate	1.0ml (Ritter41)	96DeepRitter41.txt
384 well plate (Agilent)	N/A	384Agilent.txt
384 well plate (Corning)	N/A	384Corning.txt
384 well plate (Greiner)	N/A	384Greiner.txt
384 well plate (Nunc)	N/A	384Nunc.txt
Tray, holding 27 Eppendorf Safe-Lock tubes	0.5 mL	Agilent27Eppendorf500uL.txt
Tray, holding 27 Eppendorf Safe-Lock tubes	1.5 mL	Agilent27Eppendorf1500uL.txt
Tray, holding 27 Eppendorf Safe-Lock tubes	2.0 mL	Agilent27Eppendorf2000uL.txt
High Recovery Vial plate	5 ml	15HRV5mlVialPlate.txt
High Recovery Vial plate	6 ml	15HRV6mlVialPlate.txt
Vial plate	N/A	15VialPlate.txt
Support for 100 micro vial tray (Agilent part G4226-60021)	N/A	Not Applicable
Support for 100 x 2ml vial tray (Agilent part G1329-90010)	N/A	Not Applicable
10-vial bar for well-plate autosamplers	N/A	Vialbar.txt
66 Vial Tray (for G7129A)	2.0 mL	66x2ml-vials.txt

The text files are located in this folder and they are extractable from the distribution media: \ICF Support v30\AgilentPlatesForImport.

Importing plate type definitions

You can import or select plate type definitions using the Configuration Manager window.

To import plate type definitions:

1. Select **Configuration Manager > Plate Types**.
2. Inside a row in the Plate Type Name field, right-click, and select **Import from Text**.

Alternative: Right-click in the field, and select **New** to specify a new plate type name, and then click **OK**.

3. Type the path and name of the plate type file, or browse to the location of the file.
4. Type a name for the new plate type definition, and then click **OK**.

Installation considerations

To use this software on an Empower Enterprise (client/server) system, you must install it on every computer, LAC/E module, client, and Citrix application server that interacts with the Agilent instrument, its methods, or results. You need not install the Agilent ICF Support v 3.0 software on the database server unless the server hosts Empower client software and interacts with the Agilent instrument, its methods, or results.

You can upgrade to Agilent ICF Support v3.0 from these versions:

- Agilent ICF Support v2.1 Hotfix 1
- Agilent ICF Support v2.2

Agilent ICF Support v3.0 is compatible in these environments:

- When Agilent ICF Support v2.1 Hotfix 1 (with at least ICF Update A.01.05) or Agilent ICF Support v2.2 is installed on a LAC/E module and Agilent ICF Support v3.0 is installed on a Citrix server.
- On an acquisition system that contains the current Agilent LC v1.06 ICS, the current Agilent 7890 GC v2.6 ICS, the current Agilent 6850 GC v1.40 ICS, HeadSpace Control Option v3.0, or the current released Waters driver pack.
- With Empower 3 SR1 to Empower 3 FR4 (inclusive) software (English, Japanese, and simplified Chinese).

Before you install Agilent ICF Support v3.0 software, you must remove this software using Microsoft's **Add/Remove Programs** feature:

- Agilent ICF Support version 2.2.1 in support of the CTC Analytics PAL 3 robotic sampler
- Agilent ICF Support version 1.0 drivers including:
 - Agilent LC (version 1.0.0.0)
 - Agilent ICF (version 1.02.24)
 - Agilent ICF - LC Drivers (version 1.02.017)

Recommendation: Back up all Empower software projects, library information, and databases before beginning the installation process.

Installing Agilent ICF Support v3.0 (not for Citrix servers)

Note: These instructions are not applicable for installing the ICF Support v3.0 on an Empower Citrix application server. See [Installing Agilent ICF Support v3.0 on an Empower Citrix Server](#).

To install the Agilent ICF Support v3.0 using media or a downloaded executable file:

1. Power-off the Agilent instruments, and reboot the computer.
2. Log in to the computer using an account with local administrator privileges.
Note: If you have downloaded ICF_Support_v30.exe, proceed to step 4.
3. Insert the Agilent ICF Support version 3.0 media in the media drive.
4. Browse to the root directory of the media, and double-click the ICF_Support_v30.exe file to extract the installation files to a temporary location.
5. Browse to the temporary location, open the ICF Support v30 folder, and then double-click the Setup.exe file.
6. Follow all prompts to complete the installation.
7. To complete the installation, restart the computer.
Requirement: Using Windows' Computer Management, verify that the **Waters DHCP Server** service is running before you power-on the Agilent instruments.
8. Power-on the Agilent instruments.

Installing Agilent ICF Support v3.0 on an Empower Citrix server

1. Insert the Agilent ICF Support v3.0 media in the media drive.
2. Browse to the ICF_Support_v30.exe file, and double-click it to extract the installation files to a temporary location.
3. Put the server in install mode by opening a command prompt and typing `Change user/ install`
Result: The screen response states `User session is ready to install applications.`
4. Browse to the ICF_Support_v30 folder.
5. Select the Setup.exe file, and then click **Open**.
Tip: To see the file, you sometimes must select **All Files** from the **Files of type** list.
6. Follow all prompts, to complete the installation.
7. Return the server to Execute mode by opening a command prompt and typing `Change user/execute.`

Silent and push installations

You can install or remove the Agilent ICF Support v3.0 software using a silent or push installation. Both silent and push installations and removals are unattended, meaning that these operations do not require user interaction.

During a silent installation or removal, you deploy Agilent ICF Support v3.0 on a single Empower client, LAC/E module, or Citrix server. You store the information required for the operation in a response file and an instrument-driver list file. You then call both files from a command prompt or from the commands in a batch file that is in the Empower node to which you are installing.

During a push installation or removal, you deploy Agilent ICF Support v3.0 to multiple Empower clients, LAC/E modules, or Citrix servers from a host computer. You control push installations and removals using PsExec, a Microsoft command-line tool. When you run PsExec, the response file is called as a command line argument, after the `setup.exe` file.

Silent installations

Create or modify the response file

Create or update the response file that is shipped with the media. The response file must be in XML format, using the correct XML syntax. You can update the response file that is shipped with the media, but the file extension must remain `.RSP`. The file that is shipped with the media that you need to modify is located in the `\\ICF Support v30\Push Install\ICS_Response_EN.rsp` folder. If you create a new response file, save and name it `ICS_Response_EN.rsp`, and then replace the original file on the media in the aforementioned location.

`ICS_Response_EN.rsp`

```
<?xml version="1.0" encoding="utf-8" ?>
<Configuration>
  <!-- InstallAll/RemoveAll-->
  <ACTION>InstallAll</ACTION>

  <!-- May be blank. Default is the Empower/System Language-->
  <!-- English Japanese Chinese-->
  <LANGUAGE></LANGUAGE>

  <!-- ICS List - Path to the text file-->
  <ICS_LIST>\\share\ICF Support v30\Push Install\ICS_List_EN.txt</
ICS_LIST>

  <!-- Network destination for log file to be copied-->
  <LOG_FILE_NETWORK_LOCATION>\\share\Logs</LOG_FILE_NETWORK_LOCATION>--
```

```
>

<!--true/false-->
<RESTART>>false</RESTART>

<!-- Working Directory - Path to Media root-->
<WORKING_DIRECTORY>\\share</WORKING_DIRECTORY>
</Configuration>
```

Note: *Share* is the name of the share created with the installation media Agilent ICF Support v30.

Performing a silent installation or removal

To perform a silent installation or removal, follow these steps:

1. For silent installations on a LAC/E module, skip step 1 and proceed to step 2. If you are installing or removing the Agilent ICF Support v3.0 software on a Citrix server, put the Citrix server in Install mode by opening a command prompt and typing `Change user / install`.
2. In the response file, do one of the following:
 - To install drivers, ensure that the **ACTION** property is set to **InstallAll**.
 - To remove drivers, ensure that the **ACTION** property in the response file is set to **RemoveAll**.

See also: [Create or modify the response file](#)

3. Run `Setup.exe` from a command prompt or from a batch file.

Requirement: The command must include the name of the response file and the path to `Setup.exe`; for example, `\\Share\ICF Support v30\Setup.exe /responseFile \ICF support v30\Push Install\ICS_Response_EN.rsp`.

Result: The Agilent ICF Support v3.0 instrument drivers are installed on or removed from the LAC/E module or Citrix server. Ensure that the node restarts.

4. If you are installing or removing the Agilent ICF Support v3.0 software on a Citrix server, return to Execute mode by opening a command prompt and typing `Change user / execute`.

Note: Removing the ICF Support v3.0 software does not remove the Agilent ICF or ICF Drivers. See [Uninstalling Agilent ICF Support v3.0](#).

Push installations

Push installation requirements

Agilent ICF Support v 3.0 software supports push installations for instrument component software using a Microsoft tool called PsExec. This utility is not included in the media, but you can download it using the following link: <http://technet.microsoft.com/>.

At this site, enter `psexec` in the search box and click **Search**. Click the **PsExec** link and follow the instructions for downloading and installing the latest version of PsExec.

Using PsExec requires the following tasks:

- Creating or updating the response file. [Create or modify the response file](#)
- Creating a client list node text file (for example, `Node_List.txt`) containing LAC/E modules or Citrix servers on which you want to install the ICF Support v3.0 (one line in the file for each computer).
- Obtaining local administrator privilege on each Citrix server or and LAC/E module.
- Running the PsExec command in DOS or from a batch file to do a push installation.

Restriction: When you perform a push installation on multiple computers, you must use the same type of computer for each installation (all Citrix servers, all LAC/E modules, and so on). You cannot push installations onto a mix of computer types.

Performing a push installation or removal

1. Ensure that the node list file includes the names of all the LAC/E modules and Citrix server on which you want to install or remove Agilent ICF Support v3.0.
2. In the response file, do one of the following:
 - To install drivers, ensure that the **ACTION** property is set to **InstallAll**.
 - To remove drivers, ensure that the **ACTION** property in the response file is set to **RemoveAll**.

See also: [Create or modify the response file](#).

3. For push installations on a LAC/E module, run `Setup.exe` from a command prompt or from a batch file.

Requirement: The command must include the name of the response file and the path to `Setup.exe`; for example, `psexec\\Share\node_List.txt -s -d \\ICF Support v30\Setup.exe /responseFile \\Share\ICF support v30\Push Install \ICS_Response_EN.rsp`

Where,

`-s` specifies running the remote process using the System account. You can only use the System account for push installations.

`-d` specifies that you do not need to wait for the process to terminate, and can launch the installation simultaneously on multiple systems.

Result: The Agilent ICF Support v3.0 instrument drivers are installed on or removed from the LAC/E modules. Ensure the computer restarts.

4. For push installations on Citrix servers, create the following batch file, save as PushCitrix.bat, and then run the PushInstall.bat from a Command prompt or from a batch file:

```
Change user/install
psexec\\Share\node_List.txt -s -d \\ICF Support v30\Setup.exe /
responseFile \\Share\ICF support v30\Push Install
\ICS_Response_EN.rsp
Change user/execute
```

Where,

-s specifies running the remote process using the System account. You can only use the System account for push installations.

-d specifies that you do not need to wait for the process to terminate, and can launch the installation simultaneously on multiple systems.

Result: The Agilent ICF Support v3.0 instrument drivers are installed on or removed from the Citrix modules. Ensure the computer restarts.

Note: Removing the ICF Support v3.0 software does not remove the Agilent ICF or ICF Drivers. See [Uninstalling Agilent ICF Support v3.0](#).

Verifying the installation

1. Click **Start > All Programs > Empower > Empower Installation Log**.
2. Search for lines similar to these:

```
*****
DM [09:41:25:776 AM]: Product: ICF Support -- Installation
completed successfully.
DM [09:41:42:601 AM]: Completed the installation of Agilent
Instrument Control Framework
DM [09:42:30:620 AM]: Completed the installation of Agilent
Instrument Control Framework - Driver Package
DM [09:42:55:045 AM]: Completed the installation of Agilent
Instrument Control Framework - Driver Package
*****
```

3. Click **Start > All Programs > Empower > Verify Files** to run the Verify Files utility and generate a checksum.txt file.

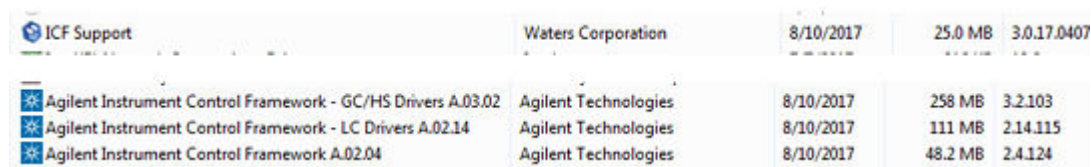
Tip: The checksum.txt file documents the installation of options or service packs and verifies the integrity of disk files by comparing their current CRCs and sizes with the

original values recorded during installation of the base software and any installed option or service pack.

Note: Files installed for the Agilent ICF support are not included in the `checksum.txt` file generated by the Verify Files utility. To verify the installation for the Agilent ICF components, execute the following batch file: `\Empower\Instruments\AgilentLC\IQWizard\ICFIQT.bat`.

4. From the Windows Control Panel of the LAC/E module or Citrix server, access Programs and Features and confirm that the following versions are installed:

Figure 1–1: Installed Agilent ICF Support and ICF Drivers from Windows Control Panel



Name	Publisher	Installed On	Size	Version
ICF Support	Waters Corporation	8/10/2017	25.0 MB	3.0.17.0407
Agilent Instrument Control Framework - GC/HS Drivers A.03.02	Agilent Technologies	8/10/2017	258 MB	3.2.103
Agilent Instrument Control Framework - LC Drivers A.02.14	Agilent Technologies	8/10/2017	111 MB	2.14.115
Agilent Instrument Control Framework A.02.04	Agilent Technologies	8/10/2017	48.2 MB	2.4.124

Uninstalling Agilent ICF Support v3.0

To ensure that file verification is successful following the removal of the software, you must restart the computer before you uninstall the Agilent ICF Support.

Note: Remove Agilent ICF Support v3.0 before you uninstall ICF-LC or ICF-GC instrument drivers.

To uninstall Agilent ICF Support v3.0:

1. Restart the computer.
2. Select **Start > All Programs > Empower > Remove Waters Instrument Component Software**.
3. Click **Remove**.
4. Select the product you want to remove, and then click **Next**.
5. Follow the prompts to remove the instrument component software from your system.

Result: The registry and new CRC checksums are updated for the Empower software installation. No Oracle software or system files are affected.

Note: Removing Waters Agilent ICF Support v3.0 does not remove the Agilent ICF software itself. You can remove the Agilent ICF software through the Microsoft Windows **Programs and Features** utility. To remove these Agilent ICF from **Programs and Features**, you need to select and remove Agilent Instrument Control Framework A.02.04 first, and then you can remove the other two drivers (GC/HS Drivers A.03.02 and LC Drivers A.02.14).

6. Restart the computer.

System validation

After you install or uninstall the software on a qualified system, determine if the system requires requalification according to your laboratory's standard operating procedures.

Requirement: If this is the initial installation in a GxP-regulated environment, perform a full qualification of the Empower software.

Recommendation: Run the Verify Files utility or the ConnectionsAQT for Empower IQ, and then review the resulting file for an entry that states `No installation changes were detected`.

Tip: The date displayed when running Verify Files (or Empower IQ) reflects only the most recent installation. See the `Empower.log` file for the complete history.

Issues resolved in this release

This section lists the problems resolved in this release. The numbers identify issues that Waters personnel monitor within a system change request tracking tool.

44176

The Waters solvent calculator is disabled; however, the Agilent ICF user interface has a built-in solvent calculator.

45557, 54828, 54658

For headspace samplers, vial numbers are no longer required in the instrument method. When running samples, Empower software derives the vial range from the sample set method. Arrange headspace vial numbers contiguously from lowest to highest and run samples in consecutive order with no gaps.

51411

Previously, if the initial conditions in the instrument method were not met within five minutes, Empower generated an Instrument Failure message. Now, instrument failure does not occur until 10 minutes pass without reaching initial conditions.

55142, 55022

Issues with shortened run times and incomplete data collection were resolved by implementing a new format for the raw data file.

54055, 53500

Previously with Agilent LC ICF Support v2.1, when the instrument order of a system was changed (for example, the detector is placed ahead of the pump), an incorrect auxiliary data channel could be acquired. Now, with Agilent ICF Support v3.0, the instrument order in a chromatographic system no longer affects the order of the auxiliary data acquisition channels.

54351

Agilent ICF Support v3.0 now supports the Agilent HS7697A Headspace Sampler 2-mL loop; firmware version A.01.08 or higher is required.

54193, 54419

Previously, when controlling Agilent LC systems, the first injection run time may have been less than expected and accompanied by large signal values (spikes). Another issue was that the `AgilentPluginServer.exe` consumed more than 90% CPU. With Agilent ICF Support v3.0 software, these issues no longer occur.

54659, 54541, 44344

The solvent composition table now appears in reports.

54650

Issues found when reporting method differences were resolved.

54691

Using the legacy Agilent 7890 GC ICS driver and a 7890 GC with a gas sampling valve as the injection source, you were unable to monitor the baseline. Now, you can monitor the baseline using Agilent ICF Support v3.0.

54920, 55162

You can now print or save information in the **Diagnostics Log** tab by right-clicking and selecting **Print** or **Save**.

55059

When installing Agilent ICF Support v3.0 software, Microsoft installer errors are no longer observed.

55239

Using the legacy ICS v2.6 driver for the 7890 GC, signal values in Empower were scaled to be 1000 times smaller than the same signal values reported by ChemStation or OpenLab ChemStation edition. Using ICF Support v3.0 and ICF-GC Drivers, GC signal values are now reported in Empower with the same order of magnitude as ChemStation or OpenLab ChemStation edition.

55291

For GC injections, the injection volume in the sample set overrides any default injection volume specified in the instrument method. In order to use the default injection volume in the instrument method, enter an injection volume of 29999.99 μ L in the sample set.

55383

The instrument method editor no longer closes unexpectedly when multiple modules are added.

55501

Agilent ICF support v3.0 supports Microsoft .NET Framework 4.0 and will install it if needed.

55502, 55503

The **General** tab in the instrument method editor contains information that pertains to LC methods only. When working with instrument methods for GC instruments, the **General** tab is left blank.

55561

With an Agilent 7890 GC, when you specify an injection volume that is greater than the sample syringe capacity in the sample set method, a message prompts you to specify an injection volume range that is within the acceptable range.

55838

A plate definition text file (66VialTray.txt) for the Agilent G7129 multisampler tray for 66, 2-mL vials is now available in the `Agilent Plates for Import` folder in the `Agilent ICF Support v3.0` folder, which you can extract from the `.exe` file.

55979

When you run samples on an Agilent LC system and then abort the sample set, the `Server Busy` message no longer appears.

Non reproducible issues

The following issues are no longer reproducible when using Agilent ICF Support v3.0 software.

SCR number	Description
29967, 40796, 44531, 48080, 48850, 53137	Average Linear Velocity calculation is missing.
38099	G1313A Prefetch fails the current running injection if the prefetch vial is missing
40911	ICOP 1.04 Binary pump SL – channel description %A is missing
41174	InstrumentServer.exe faults occur intermittently on LAC/E
44179	Empower starts run even if modules specified in instrument method are not on
44339	A1200 automatic delay volume is not disabled by modifying instrument method
44664	A1100 Binary Pump SL driver – %A channel description is blank
45193	Gradient adds up to more than 100 percent
47125	Agilent 6890 GC status is not visible by default in Empower 2 QuickStart
47848	Agilent 1100 pre-draw takes current injector volume
48861	A1200 missing vial does not give an instrument failure message
48933, 47119	Agilent 7890 GC syringe information does not display in reports
50707	Bead votage and voltage change for NPD detector is missing
50718	Communication error with ICF Support v1.0 and v2.1
51468	Argon/methane gas is missing as a carrier gas selection for the Agilent 7890 GC.
52356	Agilent ICF 2.1 HF1 displaying incorrect characters in report for solvent names
52797	Agilent 6890 GC instrument method editor does not display units

SCR number	Description
52857, 53646, 55096, 54930	Issues with shortened run times and incomplete data collection
54005	GC 6850 Oven Temp ramp not displaying correctly
54209	7890 instrument method does not warn user if no channels are enabled
54590	7890B – post run does not work
54626	Vent between extractions option for multiple mode for HS7697A is missing
54631	The Solvent Composition table does not appear in reports
54707, 55696, 55697	ALS error: messages flooding the message center
54929	DAD spectra are missing when wavelength range is less than 200 nm and the wavelength step is not set to 1
54992	Incorrect split flow reported for 6850
55130	With Empower 3 SR1, installing ICF Support v2.2 removed the Tools menu label from Configuration Manager. Starting with Empower 3 FR1, this behavior no longer occurs.
55132	7890 events for NPD detector does not list H2 flow
55156	7890 event table missing parameters to set H2 flow
55321	GC remote LED turns off after the 1st injection
55327	Equilibrate function on Agilent 7890 causes instrument to perpetually “set up”
55329	Agilent 7890 wrong driver version reported by Post Run Report
55358	Agilent 6850 driver failure on Windows 10
55450	Measurement units are missing from Ramps table

Known issues in this release

This section lists the known issues and solutions for this release. The numbers identify issues that Waters personnel monitor within a system change request tracking tool.

45599

For this release of ICF Support, the headspace feature of Multiple Headspace Extraction (MHE) is not supported.

55417

When editing an Empower instrument method for the Agilent 7890 GC, the **Save** button may not be enabled when a change is made. This is Agilent issue number 268593.

Solution: To resolve this issue, open another tab in the instrument method, and change a parameter. The **Save** button now becomes enabled.

55584

For reliable analysis of Headspace samples, always use an Empower sample set method. Running samples from the Single screen or interrupting a running sample set to run an urgent or priority sample is not recommended.

55623

For Agilent 6850 Series I and II GCs, some units in the instrument method do not appear in instrument method reports that can be viewed in Preview and Report Publisher.

55693

You cannot bring two Agilent 7890 or 7820 GCs (or a combination of an Agilent 7890 and an Agilent 7820 GC) online on the same LAC/E module, acquisition client, or Empower workstation.

55751

Some fields in the Agilent 7890 Method Editor may flicker when displayed in the method.

55752

The tray on the Agilent HS7697A Headspace Sampler uses vial height to determine the vial size. Because 20 and 22 mL vials have the same height, the sample tray cannot differentiate between these two types of vials.

55753

Agilent ICF Support v3.0 does not support GC dual tower functionality.

55754

When making injections using a valve, only the gas sampling valve is supported as an injection source. Valves such as the multi-position valve, switching valve, and remote valves are not supported as sample injection sources.

55755

The **Pretreatment tab** in the Instrument Method Editor is for LC instrument methods. It is not used in GC instrument methods.

55756

In the 7890 GC Method Editor, the MMI Inlet has an issue with the Post Run field in older GC firmware versions. When using the MMI Inlet, ensure that you use the latest firmware version. This issue is resolved in 7890 firmware version A.01.12 and higher, including all "B" versions of the firmware.

55757

Due to an Empower defect, GC inlet and signal information may be shown incorrectly when viewing Method Differences.

55767

When you create an Empower instrument method for Agilent instruments, you need not enable a channel of data; however, when you do not enable at least one channel of data, no details are shown when the instrument method is reported.

55790, 55609

When controlling Agilent LCs using the Agilent ICF software, some or all of the embedded Control Panel windows may not appear.

Note: See Waters Technical Note "Using the Agilent PreConfiguration Utility with Agilent Instrument Control Framework (ICF) Support Version 2.2" TECN134936402.

55822

In instances of high network security, authentication of the signed Agilent ICF drivers may be impeded causing slow performance of the application, especially when opening instrument methods. In this case, contact Waters support for help diagnosing and resolving this issue.

See: TECN134962729 Slow Performance when launching Agilent ICF components in Empower

55762

When running the Japanese language version of Empower ICF Support version 3.0, certain error messages may appear in the Message Center in English and not in Japanese.

55840

When using **Method Differences** with instrument methods for the Agilent 6890 GC, you might see more differences than you expect. This issue stems from an inconsistency in the XML formatting of the Agilent 6890 GC method report produced by the Agilent ICF.

Note: Agilent documented this issue as defect number 278672.

55873

Data points are not synchronized with the inject sequence. When an inject start signal occurs, the detector requires a variable amount of time to send the first data point in the sampling interval. After the first data point is collected in the first sampling interval, additional data points occur as expected according to the sampling rate and are offset in their sampling intervals by the same amount of time as the first data point.

Even though the data file contains the correct number of data points, the chromatographic plot may not end at the exact run time.

Note: See Agilent documentation G4270-90200 for more information.

55885

When using a G4204A quaternary pump and collecting AUX data channels for pump pressure and pump flow, the exported raw data will contain more data points than expected. This is because the actual data rate of the pump is slightly higher than 40 points per second.

Note: This behavior is caused only by the pump hardware and only affects the AUX channels. Chromatographic signals are not affected. Raw data exported from the G4212A DAD detector, for example, shows the expected number of data points.

56063

GC status information—the Instrument Actuals—is not shown in the Empower Instrument Method Editor. The left-hand pane of the Instrument Method Editor is blank. Close the left-hand pane by clicking on the setup icon and deselecting **Show Instrument Actuals**.

56066

When saving an instrument method for the 7890GC, it is possible that some parameters might not be saved and you may need to redo these changes.

Note: Agilent documented this issue as 267849.

Note: Before saving the instrument method, ensure that it contains no errors. It may take multiple attempts to save the instrument method.

56105

You cannot run the Agilent ICF Installation Qualification tool if the computer name is lengthy; for example, 17 or more characters.

Note: Agilent documented this issue as defect 278675.

56149

If the **Control Panel** in Run Samples or QuickStart is blank or you have difficulty connecting the instrument system to Run Samples, check the COM Security settings.

Solution: Verify that **Everyone** or **Authenticated Users** are granted Local and Remote Access by following this procedure:

- In the **Component Services > Computers > Properties > COM Security > Access Permission**, select the **Allow** check box for **Local Access** and **Remote Access**.
- In the **Component Services > Computers > Properties > COM Security > Launch and Activation Permissions**, select **Everyone** in the **Group or user names** text box, and then select **Allow** for **Local Launch**, **Remote Launch**, **Local Activation**, and **Remote Activation** Permissions for Everyone.

56154

When you perform an **Equilibrate** in the Run Samples window using an Agilent LC with valve G1158, G1159, or G1160, the Run Samples window becomes unavailable.

Solution: In the sample set method, use the **Column Condition** function, or remove the valves from the LC system.

Note: Agilent has documented this issue as 279641.

56164

The Rapid Control.Net (RC.Net) instrument driver for the CTC PAL3 sampler v1.0.1.28, which was released with Agilent ICF Support v2.2.1, is not compatible with Agilent ICF Support v3.0 because this release implements Microsoft NET Framework 4.0.

56188

After you install Agilent ICF v3.0 software, the following error message appears in the Empower installation log: `CMP-V [09:43:57:888 AM]: Error 1019. Missing ICF Support configuration in the acquitycomponents.xml file. You can disregard this informational message.`

Agilent PreConfiguration Utility

Use the Agilent Pre-Configuration Utility to remotely configure a new system. Always launch the utility from the Empower **Configuration Manager > Tools** menu.

The Pre-Configuration Utility connects to a LAC/E module using the module's IP address or host name. You can select and configure the instruments you want to use and create a new system that contains the selected instruments.

To configure Agilent LC systems, refer to the Tech Note (TECN1349136402) "Using the Agilent Pre-Configuration Utility with Agilent Instrument Control Framework (ICF) Support".

Configuring an Agilent 7890 GC system using the PreConfiguration Utility

Follow this procedure to configure an Agilent 7890 GC system using Empower's PreConfiguration Utility.

To configure an Agilent 7890 GC system using the PreConfiguration Utility:

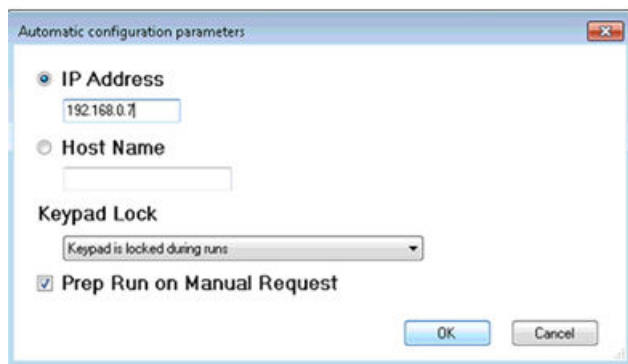
1. Using the front panel of the GC instrument, set up the Agilent GC with a static IP address.
2. Log in to Empower from any client or through the Citrix server.
3. From Configuration Manager, click **Tools > Agilent PreConfiguration**.
4. In the Configuration Directory dialog box, type the host name or IP address of the LAC/E node, and then click **Connect**.

Note: When you are connected to the node, the **New** button is enabled.

5. In the Configuration Directory dialog box, click **New**.

Note: Before you proceed to the next step, ensure that you are able to ping the IP address of the Agilent GC system from the LAC/E Command Prompt window.
6. In the Configuration Editor window, select **Agilent 78xx/68xx/7697 GC/HS**, and then click **Auto Configure**.

Result: A message appears informing you that your configuration was successful.
7. In the Automatic Configuration dialog box, do the following, and then click **OK**:
 - Select **IP address**, and then enter the static IP address of the Agilent 7890 GC system.
 - Select a **Keypad Lock** option according to your SOPs:
 - Keypad is locked during runs
 - Keypad is locked while under software control
 - Keypad is never locked
 - Ensure that you select the **Prep Run on Manual Request** check box.



8. Do one of the following:
 - If you successfully connect to the Agilent 7890 GC system, proceed to the next step.
 - If the `Automatic Configuration failed` message appears, manually configure the Agilent 7890 GC following the procedure in the next section [Configuring any other type of Agilent GC and Headspace system using the PreConfiguration Utility](#).

Note: When you successfully connect to the Agilent 7890 GC system, the appropriate instrument configuration appears in the right pane of the Configuration Editor window.
9. In the Configuration Editor window, on the right side, select the module, and then click **Configure**.
10. In the **Connection** tab of the Configure dialog box, specify the IP Address of the instrument.
11. In the **Configuration** tab of the Configure dialog box, specify or modify selections as needed, confirm that the modules are read correctly, and then click **OK**.

Result: The Configuration Directory lists the configured Agilent GC systems with their appropriate IP addresses as the assigned names. If you are finished configuring GC systems, click **Exit**. If not, repeat the procedure.

Configuring any other type of Agilent GC using the PreConfiguration Utility

Follow this procedure to configure an Agilent GC, other than the Agilent 7890 GC, using Empower's PreConfiguration Utility.

Note: The following procedure applies to Agilent 6850 GC and 7820 GC systems, or a 6890 GC system with the required LAN card for Ethernet connectivity.

To configure an Agilent GC system using the PreConfiguration Utility:

1. Using the front panel of the GC instrument, set up the Agilent GC with a static IP address.
2. Log in to Empower from any client or through the Citrix server.
3. From Configuration Manager, click **Tools > Agilent PreConfiguration**.
4. In the Configuration Directory dialog box, type the host name or IP address of the LAC/E node, and then click **Connect**.

Note: When you are connected to the node, the **New** button is enabled.

5. In the Configuration Directory dialog box, click **New**.

Note: Before you proceed to the next step, ensure that you are able to ping the IP address of the Agilent GC system from the LAC/E Command Prompt window.

6. In the Configuration Editor window, select **Agilent 78xx/68xx/7697 GC/HS**, and then do the following:
 - Expand **Agilent 78xx/68xx/7697 GC/HS**.
 - Select the instrument that you want to configure.
 - Click **>** to move the instrument to the right-hand pane of the Configuration Editor window, and then select it.
 - In the right-hand pane of the Configuration Editor window, select the instrument, and then click **Configure**.
7. In the **Connection** tab of the Configure dialog box, specify the **IP Address**, and then click **Get GC Configuration**.
8. In the **Configuration** tab of the Configure dialog box, specify or modify selections as needed, confirm that the modules are read correctly, and then click **OK** to close the Configuration window.

Note: If you are adding a headspace sampler, proceed to step 4 in the [Configuring a GC system to include a headspace sampler](#); otherwise, click **OK** to close the Configuration Editor.

Result: The Configuration Directory lists the configured Agilent GC systems with their appropriate IP addresses as the assigned names. If you are finished configuring GC systems, click **Exit** to close the PreConfiguration Editor Utility. If not, repeat the procedure.

Configuring a GC system to include a headspace sampler

You must use the Agilent PreConfiguration Utility to configure a headspace sampler with a GC system in Empower software. The headspace sampler is no longer listed as a separate instrument in Empower software.

Note: The following procedure applies to a G1888A or a HS7697A headspace sampler.

To configure an Agilent GC system to include a headspace sampler using the PreConfiguration Utility:

1. Configure the Agilent GC system following one of these procedures: [Configuring an Agilent 7890 GC system using the PreConfiguration Utility](#) or [Configuring any other type of Agilent GC using the PreConfiguration Utility](#).
2. From Configuration Manager, click **Tools > Agilent PreConfiguration**.
3. In the Configuration Directory dialog box, type the `host name` or `IP address` of the LAC/E node, and then click **Connect**.
4. Using the front panel of the headspace sampler, set up the headspace sampler with a static IP address.

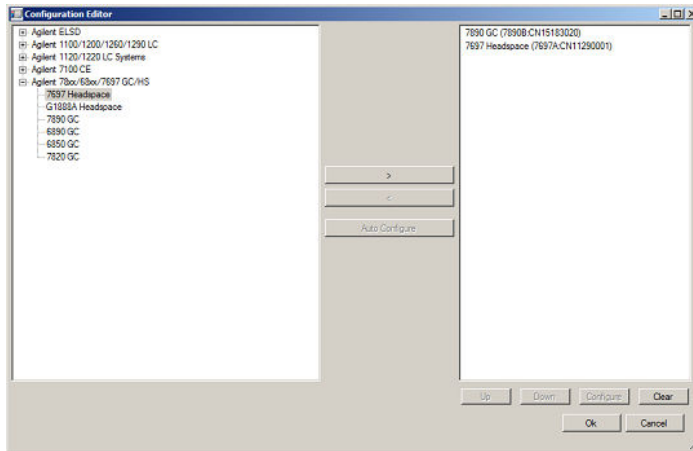
Note: Before you proceed to the next step, ensure that you are able to ping the IP address of the headspace sampler from the LAC/E Command Prompt window.

5. In the Configuration Editor window, add the headspace sampler by following these steps:
 - Select **Agilent 78xx/68xx/7697 GC/HS**.
 - Expand **Agilent 78xx/68xx/7697 GC/HS**.
 - Select the headspace sampler that you want to configure.
 - Click **>** to move the headspace sampler to the right-hand pane of the Configuration Editor window, beneath the GC in the list.
 - Select the headspace sampler in the right-hand pane, and then click **Configure**.
6. In the **Connection** tab of the Configure dialog box, specify the headspace `IP Address`.
7. In the **Configuration** tab of the Configure dialog box, select **Upload Config from Instrument**. Confirm that the information is correct in the **Instrument**, **System**, and **Resource Conservation** tabs. If not, modify as needed, and then click **OK**.

Result: The Configure dialog box closes.

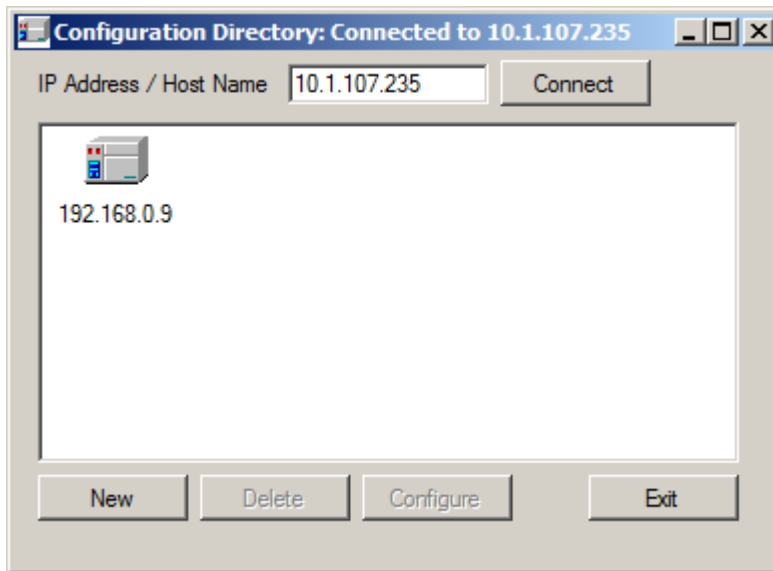
- In the Configuration Editor dialog box, click **OK**.

Figure 1–2: Configuration Editor



- After the headspace sampler is configured, only the GC and its IP address appear in the Configuration Directory dialog box. In the Configuration Directory dialog box, click **Exit**.

Figure 1–3: Configuration Directory



- Continue with the next procedure [Configuring the GC system \(with or without a headspace sampler\) in Empower](#)

Configuring the GC system (with or without a headspace sampler) in Empower

Once you complete creating the entry in the PreConfiguration Utility in Configuration Manager, you must configure the Agilent GC system in Empower software.

To configure the GC system (with or without a headspace sampler) in Empower software:

1. In the Configuration Manager window, select **Nodes** from the Empower 3 configuration tree, select the desired node from the table, and then right-click and then select **Properties**.
2. In the Node Properties dialog box, select the **Configure DHCP** tab, and then click **Configure DHCP**.
3. In the Waters DHCP Server Configuration window, click **Add**.
4. In the Add IP Address dialog box, do the following, and then click **OK**:
 - In the IP address field, specify the static IP address that you assigned to the Agilent GC. This must match the IP address assigned to the PreConfiguration Utility, which is described in the previous section.
 - In the MAC address field, specify the MAC address of the Agilent GC.
 - In the Instrument type field, select **AgGC**.
 - In the Serial Number/Unique Name field, enter the serial number or the unique name that is in accordance with your SOP.

Note: Even though you configured a headspace sampler using the [Configuring a GC system to include a headspace sampler](#), the Waters DHCP Server Configuration dialog box lists the GC instrument only and not the headspace sampler.

5. In the Waters DHCP Server Configuration dialog box, click **OK**.
6. In the Node Properties dialog box, select the **Instruments** tab, and then click **Scan Instruments**. The OK? column in the **Instruments** tab of the Nodes Properties dialog box displays a value of **Yes** for the AgGC.

Note: Click **OK** to close the Node Properties dialog box.

7. Create a chromatographic system in Empower by following these steps:
 - From the Configuration Manager window, right-click **New > Chromatographic System**.
 - In the New Chromatographic System Wizard - Type Entry page, select **Create New System**, and then click **Next**.
 - In the New Chromatographic System Wizard - Select Server page, select the appropriate node, and then click **Next**.

Note: Even with a Headspace/GC system, there should be only one **AgGC** listed in the Empower chromatographic system.

- In the New Chromatographic System Wizard - System Selection page, select **AgGC** from the **Available Instruments list** (beneath Unused Components), drag it to the **New System Instruments** pane, and then click **Next**.
- In the New Chromatographic System Wizard - Access Control page, select **Share System with other Network Users**, select the appropriate **Allow Access** and **Allow Access to Groups** settings, and then click **Next**.
- In the New Chromatographic System Wizard - Name Selection page, enter a `system name` and any system-related audit trail comments in the **System Comment** field. Ensure that the **Online** check box is selected, and then click **Finish**.

Result: A message informs you that the system is online and ready for use.

Note: You can confirm that the Agilent GC or Agilent GC/HS system is configured in Empower by selecting the node in the Configuration Manager window, and then right-clicking **Export to text**. The Agilent GC or Agilent GC and HS configuration is exported to a text file. Review the text file output for accuracy.

8. From the Empower Log On window, select **Run Samples**, and then select the project and the chromatographic system you created.

Recommendation: If there are any configuration changes that you need to make on an Agilent GC or Agilent GC and HS system, use the PreConfiguration Utility before modifying the appropriate instrument method.