Agilent CrossLab
From Insight to Outcome

Agilent CrossLab Start Up Services

Agilent InfinityLab LC Series Introduction Checklist

Thank you for purchasing an instrument from **Agilent Technologies**. CrossLab Start Up is focused on helping customers shorten the time it takes to start realizing the full value of their instrument investment. Installation, Introduction and First Run Assist are service engagements to get your new instrument and lab productive. Success starts here.

The CrossLab Start Up Introduction is delivered after the installation and introduces the operation, ownership, maintenance and troubleshooting of the new system.

This Checklist guides you through the key aspects of owning and operating your instrument. A signed copy of this checklist is provided for your records.

The CrossLab Start Up First Run Assist is an optional customer driven activity performed under the guidance of the Agilent engineer and reinforces operational understanding. After the first result is reviewed, the service engineer recommends next steps in the path to success and optimum results.

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Agilent

Introduction

Customer Information

Introduction is intended to give operators a basic overview of the operation and maintenance of new instruments and software systems and is not designed to be a substitute for a full operator-training course.

Further training, advice, and consultation can be found at https://www.agilent.com/en/training-events.

The following are **NOT** included in Introduction service (**unless explicitly ordered**):

- Training on basic PC operation, peripherals, and/or operating systems
- Training of groups larger than five people
- Customized method/application development or method optimization.
- Method transfer from other instrumentation
- Comprehensive training
- Troubleshooting and Maintenance training
- Macro programming, customized reports, databases, etc.
- Fundamentals/theory of instrument techniques
- First Run Assist – used to demonstrate the system workflow.
- **InfinityLab LC Series User Documentation**

  The InfinityLab LC Series User Documentation contains the introductory information, which will be used as a guide during introduction. It is available on the USB stick delivered with the system or on the Web at https://lc.help.agilent.com.

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Customer Responsibilities

Virtual introduction tutorial/eLearning is recommended for all participating end users.

Please follow along to confirm that applicable checklist tasks are executed during Introduction

e-Introduction, or other virtual introduction tutorial/eLearning, is recommended for all participating end users.

The manuals/media delivered with the system will be used as a guide during Introduction.

- Please make sure that they are available.
- Please follow along to confirm that applicable checklist tasks are executed during Introduction.

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Important Customer Web Links

- To access Agilent training and education, visit https://www.agilent.com/chem/training to learn about training options, which include online, classroom and onsite delivery. A training specialist can work directly with you to help determine your best options.
- To access the **Agilent Resource Center** web page, visit https://www.agilent.com/en-us/agilentresources.

  The following information topics are available:

  - Sample Prep and Containment
  - Chemical Standards
  - Analysis
  - Service and Support
  - Application Workflows
- The **Agilent Community** is an excellent place to get answers, collaborate with others about applications and Agilent products, and find in-depth documents and videos relevant to Agilent technologies. Visit https://community.agilent.com/welcome.
- Videos about specific preparation requirements for your instrument can be found by searching the **Agilent YouTube** channel at https://www.youtube.com/user/agilent.
- **Need to place a service call?**
  https://www.agilent.com/en/promotions/flexible-repair-options
- To access Agilent SubscribeNet, visit https://agilent.subscribenet.com. SubscribeNet is an online software and license delivery, update, and management service that provides you easy access to the latest versions of your software and licenses.

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Service Engineer's Responsibilities

- Provide a printed copy of the checklist to the customer to look at during Introduction.
- Discuss Introduction topics and agree upon focus areas with customer.
- Only complete and print out sections that relate to the system that has been installed.
- Complete empty fields with the relevant information.
- Complete the relevant checkboxes in the checklist using a "X" or tick mark ✓.
- Check "**Section not applicable**" check boxes to indicate services/tasks not delivered, as appropriate.
- Complete the **Service Review** section together with the customer.
- Complete the fields for page numbers at the foot of each selected page.
- Add relevant page numbers to selected pages and complete the total number of pages field in the Service Verification section.
- Complete Signature Page and attach Signature Page to Service Order.

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System Introduction

General Introduction

- ☐ Ensure that all user manuals, documentation, tools, etc. provided by or relevant to the system were installed during installation and before starting Introduction. These are excellent reference tools for the customer – both during the Introduction, and after the Installation and Introduction has been completed.
- ☐ Show where to find resources available (e.g. manuals, guides, Online Help, and videos) on the instrument system.
- ☐ **Note:** Indicate what may be loaded onto other PCs not directly interfaced with the instrument.
- ☐ Demonstrate how to use the InfinityLab LC Series User Documentation.
- ☐ Explain need for avoiding growth of algae within the system, which can create problems and high costs for customers, as this is not covered by the warranty or support contract (Customer is liable for repair charges).
- ☐ Explain how the solvent is stopped from entering the system, when the instrument is powered off.
- ☐ Familiarize the customer with the Essential Instrument Supplies Lists (EIS) QR code, which links to a comprehensive list of supplies, with part numbers, descriptions, pictures, and values for the customer, directly orderable on Agilent.com.

- ☐ Give recommendations on solvents (solvent quality, possible degradation, growth of algae, pH range, buffer concentrations etc.), see section **"Best Practices"** in the InfinityLab LC Series User Documentation.
- ☐ Recommend to see Troubleshooting section in the InfinityLab LC Series User Documentation.
- ☐ Give recommendations on correct storage of the system.
- ☐ Explain emulation mode, instrument control framework (ICF), and potential consequences for feature set (if applicable).

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- ☐ Explain why the InfinityLab LC Performance Check was performed, why it is important to run it after installation. Additional information can be looked up in the white paper, which is delivered with the USB- Stick or scan the code:

- ☐ Provide customer with **overview of their system** and its components, including hardware, Software configuration, PC configuration, and, if purchased, peripheral products such as Sampler, Barcode Reader, etc.
- ☐ Point out important instrument and PC connections (e.g. power, gases, communications).
- ☐ Demonstrate how to use manuals, including the Online Help. If available, explain benefits of using HTML to search across multiple manuals/guides.
- ☐ If available, show list of videos available on basic instrument and software how-to tasks.

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Instrument Start-Up and Overview (guide customer to perform)

- ☐ Explain how to start up and close down the instruments/modules in the correct order.
- ☐ Give overview of the instrument and modes of operation (e.g. Status and Menus).
- ☐ Explain where to find the status indicators and what they mean.

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System Information

Instrument System Name and ID	
Instrument System Site and Location	

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Module List

Module identification: The module identifier (e.g. G7117A) can be found on the lower right side of the module front cover.

The information in this document applies to Infinity II and Infinity III modules.

Module	Instrument Description
G1170A	1290 Valve Drive
G1328C	1260 Manual Injector
G1364F	1260 Analytical Fraction Collector
G1390B	Universal Interface Box II
G4208A	1200 Instant Pilot
G4260B	1260 Evaporative Light Scattering Detector
G4756A	InfinityLab Sample ID Reader
G5628A	1260 Bio-inert Manual Injector
G5654A	1260 Bio-inert Quaternary Pump
G5664B	1260 Bio-inert Fraction Collector
G5668A	1260 Bio-inert Multisampler
G7102A	1290 Evaporative Light Scattering Detector
G7104A	1290 Flexible Pump
G7104C	1260 Flexible Pump
G7110B	1260 Isocratic Pump
G7111A	1260 Quaternary Pump VL
G7111B	1260 Quaternary Pump
G7112B	1260 Binary Pump
G7114A	1260 Variable Wavelength Detector
G7114B	1290 Variable Wavelength Detector
G7115A	1260 Diode Array Detector WR
G7116A	1260 Multicolumn Thermostat
G7116B	1290 Multicolumn Thermostat
G7117A	1290 Diode Array Detector FS

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Module	Instrument Description
G7117B	1290 Diode Array Detector
G7117C	1260 Diode Array Detector HS
G7120A	1290 High-Speed Pump
G7121A	1260 Fluorescence Detector
G7121B	1260 Fluorescence Detector Spectra
G7122A	1260 Degasser
G7123B	1290 Fluorescence Detector
G7129A	1260 Vialsampler VL
G7129B	1290 Vialsampler
G7129C	1260 Vialsampler
G7130A	InfinityLab Integrated Column Compartment
G7131A	1290 Bio Flexible Pump
G7131C	1260 Bio Flexible Pump
G7132A	1290 Bio High-Speed Pump
G7137A	1290 Bio Multisampler
G7137B	1290 Hybrid Multisampler
G7162A	1260 Refractive Index Detector
G7162B	1290 Refractive Index Detector
G7165A	1260 Multiple Wavelength Detector
G7167A	1260 Multisampler
G7167B	1290 Multisampler
G7167C	1260 Hybrid Multisampler
G7167-60201	InfinityLab Sample Thermostat
G7175A	InfinityLab Level Sensing
G7179A	InfinityLab Assist Interface
G7180A	InfinityLab Assist Hub
G7800A	1260 GPC/SEC Multi-Detector Suite
G7801A	1260 GPC/SEC MDS Refractive Index Detector
G7802A	1260 GPC/SEC MDS Viscometer

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Module	Instrument Description
G7803A	1260 GPC/SEC MDS Light Scattering Detector
G7805A	1260 Bio-SEC Multi-Detector Suite
G7808A	1260 Bio-SEC Light Scattering Detector
G7809A	1260 Bio-SEC Dynamic Light Scattering Detector
G7885A	1260 Multi-Angle Light Scattering Detector
G7886A	1260 GPC/SEC Column Thermostat
G7887A	GPC/SEC-Ready Kit
SQ/High-End MS	For the mass spectrometers, please refer to the corresponding documents for further information

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Introduction for Instrument Usage

G7175A Level Sensing

- ☐ **Section NOT Applicable**
- ☐ Explain the basic operating principle of the Level Sensing, its features, and key specifications.
- ☐ Explain the installation of bottles and solvent lines.
- ☐ Explain the importance of zeroing/taring before bottles are set up.
- ☐ Explain the importance of correct solvent line holders' positioning.
- ☐ Explain the importance of maintaining a clean bottle plate area.
- ☐ Explain how to handle solvent spill in the bottle plate area.
- ☐ Explain Level Sensing configuration/settings in the Chromatography Data System (CDS).
- ☐ Explain solvent level prediction features in the Chromatography Data System (CDS).

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G7122A Degasser

☐ **Section NOT Applicable**

☐ Explain basic operating principle, applications, and key specifications.

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G7104A/C Flexible Pump, G7131A/C Bio Flexible Pump, G7120A High-Speed Pump, G7132A Bio High-Speed Pump

- ☐ **Section NOT Applicable**
- ☐ Explain the basic operating principle of the pump, its features, and key specifications.
- ☐ Explain pump settings in the Chromatography Data System (CDS).
- ☐ Explain the use of solvent types and generic solvents.
- ☐ Explain the Prepare Pump procedures in the CDS.
- ☐ Explain the seal wash function and its benefits.
- ☐ Explain the purpose of the tuning signal and its boundaries.
- ☐ Explain regular maintenance of high-pressure filter assembly (PTFE frits) for G7120A and G7132A and solvent bottle filters (if applicable).
- ☐ Explain flushing the inline filter (if installed) and maintenance of the high-pressure filter assembly and inline filter for G7104A/C and G7131A/C (if applicable).
- ☐ Explain the use of the Jet Weaver and the availability of different volumes. (The Jet Weaver is optional for the G7104A/C Flexible Pumps and G7131A/C Bio Flexible Pumps).
- ☐ Explain the availability of ISET as a temporary license. Give a brief introduction of ISET features. A detailed familiarization is included if a full license is purchased.
- ☐ Explain the diagnostic features in Lab Advisor (Pump Leak Rate Test and System Pressure Test).

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G7110B Isocratic Pump, G7111A Quaternary Pump VL, G7111B Quaternary Pump, G5654A Bio-Inert Quaternary Pump, G7112B Binary Pump

- ☐ **Section NOT Applicable**
- ☐ Explain the basic operating principle of the pump, its features, and key specifications.
- ☐ Explain pump settings in the Chromatography Data System (CDS).
- ☐ Explain solvent tables, solvent compressibility, and pump elasticity calibration for G7112B (if applicable).
- ☐ Explain low delay volume configuration for G7112B (if applicable).
- ☐ Explain when and how to optimize compressibility settings.
- ☐ Explain installation of solvent lines, especially for buffers, recommended for Quaternary pumps (if applicable).
- ☐ Explain procedures for priming and flushing the pump and system and changing solvents.
- ☐ Explain seal wash function (if applicable).
- ☐ Explain the diagnostic features in Lab Advisor (Pump Leak Rate Test and System Pressure Test).
- ☐ Explain availability of optional upgrades: SSV for binary pumps, seal wash for all pumps, quaternary option for isocratic pump, active inlet valve for isocratic and quaternary pumps.
- ☐ Explain availability of optional PE seals and normal phase valves for normal phase applications.
- ☐ Explain regular maintenance of purge valve (PTFE frits) and solvent bottle filters.

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G7129A/B/C Vialsampler

- ☐ **Section NOT Applicable**
- ☐ Explain the operating principle of the Vialsampler as well as its key features and specifications. Introduce the main parts of the flow path (needle, needle seat, sample loop, and injection valve) and explain the elemental steps of the injection cycle.
- ☐ Show the available method and control settings for the Vialsampler in the Chromatography Data System (CDS) and explain how to set up method parameters, such as Injection Volume, Needle Wash options, and Auxiliary settings.
- ☐ Show the available special commands for the Vialsampler in the CDS, including Needle Wash, Switch to Bypass/Mainpass and Switch Off Tray Illumination.
- ☐ Introduce the different types of needles and needle seats and explain when to use and how to exchange them.
- ☐ Introduce the different types of vial drawers and show how to install them. Explain which vial types are compatible with and recommended for the Vialsampler.
- ☐ Introduce the different types of metering head options and explain when to use them.
- ☐ Explain how to change the configuration of metering head, sample loop, and needle seat in the CDS.
- ☐ Explain how to use the Needle Wash function and the related solvent compatibility considerations.
- ☐ Explain the importance of having proper leak concept and show how to correctly route tubings for waste/leak handling.
- ☐ Show where to locate the leak sensor.
- ☐ Explain the importance of the regular maintenance and cleaning of the Vialsampler, having special focus on the needle and needle seat, the peristaltic pump, the rotor seal of the injection valve, the metering seal, and the transport rods of the transport assembly.
- ☐ Explain how and when to use the following Service & Diagnostics features in Lab Advisor: Injector steps, Gripper Verification, Maintenance Positions.
- ☐ Explain how and when to use the following Instrument Control features in Lab Advisor: Clear Error, Sampler Reset, Park Arm, Light On/Off, Injection Valve Bypass/Mainpass.
- ☐ Introduce the available upgrade options for the Vialsampler: Sample Thermostat, Integrated Column Compartment, Multidraw Kit, Column Identifier Kit, and External Tray.

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G7129A/B/C Vialsampler with G7130A InfinityLab Integrated Column Compartment

☐ **Section NOT Applicable**

☐ Explain the operating principle of the Integrated Column Compartment (ICC) as well as its key features and specifications.

☐ Show the available method and control settings for the ICC in the CDS.

☐ Show how to install and use the Column Identifier Kit (if applicable).

☐ Explain how and when to use the ICC Heater Test diagnostic feature in Lab Advisor.

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G7129A/B/C Vialsampler with Sample Thermostat

- ☐ **Section NOT Applicable**
- ☐ Explain the basic operating principle of the Sample Thermostat as well as its key features and specifications.
- ☐ Show the available method and control settings for the Sample Thermostat in the CDS.
- ☐ Explain the importance of having proper condensate drainage concept and show how to route correctly the corresponding condensate tubings.
- ☐ Explain the importance of regular maintenance and cleaning of the Sample Thermostat, having special focus on the ventilation outlets, the condensate tubings, and waste containers.
- ☐ Explain how and when to use the Sample Cooler Function Test diagnostic feature in Lab Advisor.

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G7167A/B Multisampler, G5668A Bio-inert Multisampler, G7137A Bio Multisampler

- ☐ **Section NOT Applicable**
- ☐ Explain the operating principle of the Multisampler, as well as its key features and specifications. Introduce the main parts of the flow path, injection cycle, and components of the sampler, like needle assembly, needle seat, sample loop, and rotor seal.
- ☐ Show the available method and control settings for the Multisampler in the Chromatography Data System (CDS) and explain how to set up method parameters, such as Injection Volume, Needle Wash Options, and Auxiliary settings.
- ☐ Explain the Sample Entry Management Interface features in the CDS (if applicable).
- ☐ Show the use and configuration of the Sample Hotel and drawer system, how to install and remove drawers, and explain which sample containers and vessels can be used with each type of drawer.
- ☐ Explain the Multisampler configuration, such as sample loop and needle seat.
- ☐ Explain the needle wash function and solvent compatibility.
- ☐ Explain when to use the different sample loop flex cartridges, the needle assembly, and seat assemblies and how to exchange them.
- ☐ Show where sample loop flex cartridges, the needle assembly, and seat assemblies can be configured in the CDS.
- ☐ Show proper leak concept. Show routing of waste tubing and condensation drain tubing.
- ☐ Show where to locate the leak sensor.
- ☐ Explain the Service & Diagnostics features in Lab Advisor: Injector steps, Auto Referencing, Parking, and Maintenance Position.
- ☐ Explain how to use the following Instrument Control features in Lab Advisor: Clear Error, Sampler Reset, Drawer Configuration, and Park Position.
- ☐ Introduce the available upgrade options for the Multisampler: Multiwash, Multidraw, Dual Needle, Multiload, and Sample Thermostat.
- ☐ Introduce the different types of metering head options and explain when to use them.
- ☐ Explain regular maintenance of purge pump, needle assembly, needle seat assembly, and rotor seal.
- ☐ Explain the parameters in the CDS, such as Assign Wellplates, Reset Injector, Mainpass/ Bypass, Move Arm, and Control.
- ☐ Explain the wellplate orientation in the CDS.

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G7167C, G7137B Hybrid Multisamplers

- ☐ **Section NOT Applicable**
- ☐ Explain the operating principle of the Hybrid Multisampler, as well as its key features related to hybrid injection modes in particular, and specifications. Introduce the main parts of the flow path, injection cycle, and components of the sampler, like needle assembly, needle seat, sample loop, and rotor seal.
- ☐ Show the available method and control settings for the Hybrid Multisampler in the Chromatography Data System (CDS). Explain how to set up method parameters, such as Injection Volume, Needle Wash Options, and Auxiliary settings.
- ☐ Show how to switch between Feed and Flow-Through Injection. Explain that the Feed settings are defaults and how to change them in the CDS.
- ☐ Explain the details of the Feed and Flow-Through Injection settings in the CDS Method Advanced parameters tab.
- ☐ Explain the solvent assignment options in the CDS Method Injection Path Cleaning parameters tab.
- ☐ Show the use and configuration of the Sample Hotel and drawer system, how to install and remove drawers, and explain which sample containers and vessels can be used with each type of drawer.
- ☐ Explain the Hybrid Multisampler configuration, such as sample loop and needle seat.
- ☐ Explain the Multiwash function, solvent assignment for the ports and solvent compatibility.
- ☐ Show where the Sample Loop flex cartridges, the Needle Assembly, and Seat Assemblies can be configured in the CDS.
- ☐ Show the details of the leak and waste concept. Show routing of waste tubing and location of the Leak Sensor.
- ☐ Explain the Service & Diagnostics features in Lab Advisor: Injector steps, Auto Referencing, Parking, and Maintenance Position.
- ☐ Explain how to use the following Instrument Control features in Lab Advisor: Clear Error, Sampler Reset, Drawer Configuration, and Park Position.
- ☐ Explain the regular maintenance of Needle Assembly, Needle Seat Assembly, and Rotor Seal.
- ☐ Introduce the available options for the Hybrid Multisampler including Sample Thermostat.
- ☐ Introduce the different types of metering head options and explain when to use them.
- ☐ Explain regular maintenance of purge pump, needle assembly, needle seat assembly, and rotor seal.

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- ☐ Explain the parameters in the CDS, such as Assign Wellplates, Reset Injector, Mainpass/ Bypass, Auto-Clean, Prime Solvents and Control.
- ☐ Explain the wellplate orientation in the CDS.
- ☐ Explain the Sample Entry Management Interface features in the CDS (if applicable).

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G7167A/B Multisampler, G7167C, G7137B Hybrid Multisamplers, G5668A Bio-inert Multisampler, and G7137A Bio Multisampler with Sample Thermostat

- ☐ **Section NOT Applicable**
- ☐ Explain the basic operating principle of the Sample Thermostat as well as its key features and specifications.
- ☐ Show the available method and control settings for the Sample Thermostat in the CDS.
- ☐ Explain that the Sample Thermostat uses isobutane (R600a) as refrigerant, which is environmentally friendly but flammable, and thus, some special considerations should be taken into account during the operation of this device (no open fire or source of ignition, adequate room size with sufficient air ventilation capacity).
- ☐ Explain the importance of having proper condensate drainage concept and show how to route correctly the corresponding condensate tubings.
- ☐ Explain the importance of regular maintenance and cleaning of the Sample Thermostat, having special focus on the ventilation outlets, the condensate tubings, and waste containers.
- ☐ Explain how and when to use the Sample Cooler Function Test diagnostic feature in Lab Advisor.

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G1328C Manual Injector, G5628A Bio-Inert Manual Injector

- ☐ **Section NOT Applicable**
- ☐ Explain the operating principle of the Manual Injector as well as its key features and specifications.
- ☐ Explain the differences between filling the loop partially and completely and when to use each technique.
- ☐ Introduce the different types of sample loops and explain when to use them.
- ☐ Explain how to clean the injector valve with the Needle Port Cleaner.
- ☐ Explain that with larger loops, the mobile phase may be ejected from the needle port when the valve is rotated back to the load position.

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G7116A/B MCT

- ☐ **Section NOT Applicable**
- ☐ Explain the basic operating principle of the column thermostat, its features, and key specifications.
- ☐ Explain temperature settings in the Chromatography Data System (CDS).
- ☐ Explain the role of Quick Connect Heat Exchangers.
- ☐ Explain the role of Quick Change Valve Head, how to set a position in the CDS (if applicable).
- ☐ Explain column ID tag readers (if applicable).
- ☐ Explain the Thermostat Test (via Service & Diagnostics) and Two Point Calibration (via Instrument Control, Special Commands) in Lab Advisor.
- ☐ Explain the functionality and usage of the column ID tags in Agilent CDS (if applicable).
- ☐ Explain the functionality and usage of the column ID tags in third party CDS (if applicable).

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G7886A GPC/SEC Column Thermostat

- ☐ **Section NOT Applicable**
- ☐ Explain the basic operating principle of the Column Thermostat, its features, and key specifications.
- ☐ Show how to turn on the instrument with the main switch at the rear panel.
- ☐ Provide the customer with an overview of the Column Thermostat its installation, PC configuration, and LAN connection.
- ☐ Explain the function of the vapor sensor and leak handling.
- ☐ Show how to connect the instrument with the correct IP address in the instrument configuration dialog box.
- ☐ Open the WinGPC SW and the ChromPilot window and explain the instrument settings in the system tab.

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G7114A/B VWD, G7115A DAD, G7117A DAD FS, G7117B DAD, G7117C DAD HS, G7121A FLD, G7121B FLD Spectra, G7162A/B RID, G7165A MWD

- ☐ **Section NOT Applicable**
- ☐ Explain the basic operating principle of the detector, its features, and key specifications.
- ☐ Explain detector settings in the Chromatography Data System.
- ☐ Explain back pressure and pH range limitations of the flow cells.
- ☐ Explain optional preventive use of overpressure regulators to secure the flow cell (G7117A/B/C or G7121A/B) (if applicable).
- ☐ Explain flow cell maintenance.
- ☐ Explain that a flow cell change (removal/insertion) requires a wavelength calibration using the FLD Calibration Kit (G7121-68001) (G7121A/B) (if applicable).
- ☐ Explain the FLD setting "Only on during run" (if applicable).

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G7123B 1290 FLD

- ☐ **Section NOT Applicable**
- ☐ Explain the basic operating principle of the detector, its features, and key specifications.
- ☐ Demonstrate how to change a flow cell.
- ☐ Recommend using PEEK finger-tight fittings on the flow cell only.
- ☐ Mention that use of wrenches on an installed flow cell should be avoided.
- ☐ Explain back pressure and pH range limitations of the flow cells and highlight that particles in the LC system or salt crystals in an insufficiently purged LC system can lead to a blockage and cause the cell to burst.
- ☐ Explain optional preventive use of overpressure regulators to secure the flow cell.
- ☐ Explain how to flush and store the flow cell to avoid bubbles.
- ☐ Explain how to change the lamp and the lamp house window.
- ☐ Highlight that the lamp should be turned off first and switched on last. Insist on the importance of the maximum lamp lifetime of 3000h.
- ☐ Explain how to check the lamp-on time and the lamp EMFs.
- ☐ Advise how to handle and store lamps safely.
- ☐ Indicate what to do when a lamp bursts. See warnings in the maintenance section of the manual.
- ☐ Explain the detector settings in the Chromatography Data System.
- ☐ Explain that a flow cell change, lamp or lamp house window change requires a wavelength calibration to be carried out.

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G7800A GPC/SEC Multi-Detector Suite

G7801A GPC/SEC MDS Refractive Index Detector

☐ **Section NOT Applicable**

☐ Explain the basic operating principle of the detector, its features, and key specifications.

☐ Explain the detector settings in the Chromatography Data System.

☐ Explain back pressure and pH range limitations of the flow cells.

☐ Explain flow cell purging cycles.

☐ Ensure the following organic checkout conditions:

Parameter	Value
Test probe	Polystyrene, Mw ~ 260 kg/mol, PDI 2.5 (PL2010-0000)
Column	PLgel MIXED-C (PL1110-6500)
Eluent	THF (stabilised BHT)
Flow rate	1 ml/min
Concentration	1 mg/ml
Injection volume	100 µl
Temperature (detector)	30°C

☐ Once baseline is stable, verify the operation of the detector according to the values stated in the table below:

Parameter	Expected Result	Actual Result
Peak height	> 10 mV	
Baseline noise	<= 1 mV	
Baseline drift	< 15 mV/h	

G7802A GPC/SEC MDS Viscometer

☐ **Section NOT Applicable**

☐ Explain the basic operating principle of the detector, its features, and key specifications.

☐ Explain the detector settings in the Chromatography Data System.

☐ Explain back pressure and pH range limitations of the maximum pressure on the IP not to exceed 100 kPa.

☐ Explain and show the purging of the IP and DP transducers.

☐ Ensure the following organic checkout conditions:

Parameter	Value
Test probe	Polystyrene, Mw ~ 260 kg/mol, PDI 2.5 (PL2010-0000)
Column	PLgel MIXED-C (PL1110-6500)
Eluent	THF (stabilised BHT)
Flow rate	1 ml/min
Concentration	1 mg/ml
Injection volume	100 µl
Detector temperature	30°C

☐ Verify the operation of the viscometer according to the values stated in the table below:

Parameter	Expected Result	Actual Result
Peak height	> 60 mV	
Baseline noise	<= 1 mV	
Baseline position	± 300 mV	
Break through peak	> 3 minutes of the main peak	
IP value	40 ± 15 kPa	

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G7803A GPC/SEC MDS Light Scattering Detector

☐ **Section NOT Applicable**

☐ Explain how to start-up the system by adding components into the system to prevent contamination of the Light Scattering detector.

☐ Explain the importance of ramping flow rate at 0.1 ml/min on start-up.

☐ Explain the detector settings in the applicable software.

☐ Explain the pressure and pH range limitations of the flow cell.

☐ Explain the basic operating principle of the detector, its features, and key specifications.

☐ Explain the detector settings in the Chromatography Data System.

☐ Explain back pressure and pH range limitations of the flow cells.

☐ Explain the flushing and maintenance of the in-line filter.

☐ Explain the importance of laser warm-up time, the expected laser lifetime and advise customer in correct laser handling.

☐ Ensure the following organic checkout conditions:

Parameter	Value
Test probe	Polystyrene, Mw ~ 260 kg/mol, PDI 2.5 (PL2010-0000)
Column	PLgel MIXED-C (PL1110-6500)
Eluent	THF (stabilised BHT)
Flow rate	1 ml/min
Concentration	1 mg/ml
Injection volume	100 µl
Detector temperature	30°C

☐ Once baseline is stable, verify the operation of the detector according to the values stated in the table below:

Parameter	Expected Result	Actual Result
Peak height 90° signal	> 70 mV	
Peak height 15° signal	> 30 mV	
Baseline noise 90° signal	<= 1 mV	
Baseline noise 15° signal	<= 1 mV	

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Parameter	Expected Result	Actual Result
Baseline offset 90° signal	< 350 mV	
Baseline offset 15° signal	< 350 mV	

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G7805A Bio-SEC Multi-Detector Suite

G7808A Bio-SEC Light Scattering Detector

☐ **Section NOT Applicable**

☐ Explain how to start-up the system by adding components into the system to prevent contamination of the Light Scattering detector.

☐ Explain the basic operating principle of the detector, its features, and key specifications.

☐ Explain the importance of ramping flow rate at 0.1 ml/min on start-up.

☐ Explain the detector settings in the applicable software.

☐ Explain the pressure and pH range limitations of the flow cell.

☐ Explain the detector settings in the Chromatography Data System.

☐ Explain back pressure and pH range limitations of the flow cells.

☐ Explain the flushing and maintenance of the in-line filter.

☐ Explain the importance of laser warm-up time, the expected laser lifetime and advise customer in correct laser handling.

☐ Ensure the following aqueous checkout conditions:

Parameter	Value
Test probe	Bovine Serum Albumin (BSA), Sigma-Aldrich P0834
Column	AdvanceBio SEC (PL1180-5301)
Eluent	Phosphate Buffer Solution, Sigma-Aldrich P3813
Flow rate	1 ml/min
Concentration	2 mg/ml
Injection volume	100 µl
Detector temperature	30°C

☐ Once baseline is stable, verify the operation of the detector according to the values stated in the table below:

Parameter	Expected Result	Actual Result
BSA monomer peak height at 90°	> 200 mV	
Baseline noise 90° signal	<= 1 mV	

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Parameter	Expected Result	Actual Result
Baseline noise 15° signal	<= 1 mV	
Baseline offset 90° signal	< 350 mV	
Baseline offset 15° signal	< 350 mV	

G7809A Bio-SEC Dynamic Light Scattering Detector

☐ **Section NOT Applicable**

☐ Explain how to start-up the system by adding components into the system to prevent contamination of the Light Scattering detector.

☐ Explain the basic operating principle of the detector, its features, and key specifications.

☐ Explain the importance of ramping flow rate at 0.1 ml/min on start-up.

☐ Explain the detector settings in the applicable software.

☐ Explain the pressure and pH range limitations of the flow cell.

☐ Explain the detector settings in the Chromatography Data System.

☐ Explain back pressure and pH range limitations of the flow cells.

☐ Explain the flushing and maintenance of the in-line filter.

☐ Explain the importance of laser warm-up time, the expected laser lifetime and advise customer in correct laser handling.

☐ Ensure the following aqueous checkout conditions:

Parameter	Value
Test probe	Bovine Serum Albumin (BSA), Sigma-Aldrich P0834
Column	AdvanceBio SEC (PL1180-5301)
Eluent	Phosphate Buffer Solution, Sigma-Aldrich P3813
Flow rate	1 ml/min
Concentration	2 mg/ml
Injection volume	100 µl
Detector temperature	30°C

☐ Once baseline is stable, verify the operation of the detector according to the values stated in the table below:

Parameter	Expected Result	Actual Result
DLS Rh average	3 - 5 nm	
BSA monomer peak height at 90°	> 200 mV	
Baseline noise 90° signal	<= 1 mV	
Baseline noise 15° signal	<= 1 mV	

Parameter	Expected Result	Actual Result
Baseline offset 90° signal	< 350 mV	
Baseline offset 15° signal	< 350 mV	

☐ Verify the DLS operating parameters:

Parameter	Expected Result	Actual Result
Correlator run time	5 seconds	
Correlator function clip time	10 seconds	
R2	0.80	
Eluent viscosity	0.007980	
Eluent refractive index	1.333	

G7885A Multi-Angle Light Scattering Detector

- ☐ **Section NOT Applicable**
- ☐ Provide the customer with an overview of the MALS detector and its installation, PC configuration, and LAN connection.
- ☐ Show IP address and network settings.
- ☐ Explain the basic operating principle of the detector, features, and key specifications.
- ☐ Explain the pressure and pH range limitations of the flow cell.
- ☐ Give recommendations on solvents and what to consider during their preparation.
- ☐ Give recommendations on correct storage of the instrument.
- ☐ Explain consequences of algae growth within the instrument.
- ☐ Explain/review cleaning and flushing of the flow cell.
- ☐ Explain how to switch on the MALS detector.
- ☐ Explain and show fluidic connections.
- ☐ Explain benefit of inline filter (see product UCA431in accessory kit) and demonstrate the exchange of filter (replacement filter: UCA428X).
- ☐ Explain availability of consumables, supplies, and maintenance parts, capillary kits, standard kits for detector calibration (determination of essential detector constants), and other parts.
- ☐ Show and prepare the standards necessary for the Signal/Noise Test and Detector Setup from the Ready VLS-Installation Kit (G7885-68010) in the appropriate solvent.
- ☐ Explain the leak handling principle and how to proceed in case of leak detection.
- ☐ Explain how nearby solvent can trigger the vapor sensor.
- ☐ Explain the status LEDs.
- ☐ Explain why laser warmup time is needed, the expected laser lifetime and advise customer in correct laser handling.
- ☐ Explain that a repair requires sending the instrument to an Agilent Repair Center.

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Software Start-Up and Configuration of MALS Detector

Using Agilent WinGPC Software (G7890)

- ☐ **Section NOT Applicable**
- ☐ Show location of Agilent WinGPC software and start with authentication dialog box (tick option Show Login Screen).
- ☐ Explain the Login Screen and how to configure and verify the IP address of MALS detector.
- ☐ Demonstrate how to open the MALS control panel and explain all instrument options/ settings.
- ☐ Explain end action, especially for MALS (show in MALS control panel), which can be performed at the end of a sequence.
- ☐ Show how to switch on the laser in the SW and turn it on to allow it to warm up.
- ☐ Show how to perform the key steps in creating or editing a method including the MALS detector.
- ☐ Emphasize that the MALS detector must be the last detector in the WinGPC method and that maximum six detectors are supported in the SW.
- ☐ Point out methods that have the MALS detector included require a concentration detector for calculation of absolute molar masses.
- ☐ Explain and show that during drag and drop of MALS to the detector section an automatic configuration is performed, and nothing needs to be changed.
- ☐ Enter the eluent in the method and its correct refractive index and explain its relevance for the calculation of correct absolute molar masses via light scattering.
- ☐ Explain all necessary parameters, which have an influence on the molar mass results (sample concentration, sample dn/dc value, inter detector delay, detector constants, etc.).
- ☐ Enter the dn/dc value for the standards and the samples in the sample editor.
- ☐ Show Substance field in sequence manager and within the sample editor.
- ☐ Explain the basic concept of the essential detector setup and which standards must be used for organic or aqueous application.
- ☐ Check the detector baseline and mention the acceptable range for proper detector function.

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Using Advanced GPC/SEC Add-on for OpenLab CDS (G7861AA)

- ☐ **Section NOT Applicable**
- ☐ Show how to start an OpenLab session and how to create an Instrument.
- ☐ Explain how to configure the MALS detector using the default IP.
- ☐ Demonstrate how to open the MALS instrument status and explain all instrument options/ settings in the respective dashboard.
- ☐ Show and explain how to set up a data acquisition method.
- ☐ Show how to switch on the laser in the SW and turn it on to allow it to warm up.
- ☐ Point out methods that have the MALS detector included require a concentration detector for calculation of absolute molar masses.
- ☐ Explain and show how to enter necessary parameters, which have an influence on the molar mass results (sample concentration, dn/dc value, UV extinction coefficient (if UV detector is used) and eluent refractive index, see respective columns in injection list table).
- ☐ Explain the basic concept of the essential detector calibration (system calibration) and which standards must be used for organic or aqueous application.
- ☐ Check the detector baseline and mention the acceptable range for proper detector function.

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Signal/Noise Test for Aqueous Applications (MALS Detector)

☐ **Section NOT Applicable**

☐ Follow the aqueous pump and system preparation procedure (Aqueous Pump and System Preparation) to stabilize the pump flow.

☐ Install the checkout column:

- ☐ Agilent Advance GPC/SEC SUPREMA Lux 1000 Å, 8 x 300 mm, 5 µm (SUA0830051E3LS), if applicable.
- ☐ Agilent AdvanceBio SEC 300Å, 7.8 x 300 mm, 2.7 µm (PL1180-5301), if applicable.

☐ Leave the GPC/SEC column to equilibrate (minimum 50 min).

☐ Connect the MALS to your Agilent system (detectors) and leave to equilibrate until baseline is stable.

☐ Set the following detector conditions within the installed and utilized software:

Parameter	Value
Detector temperature	30 °C
Data rate	1 Hz (digital data acquisition)
dn/dc	0.149 (literature value for Pullulan in water)
Refractive index	1.333
Laser power	100 %
Concentration range of standard	1.5 – 2.0 g/L
Pump flow rate	1.0 mL/min
Run time	15 min

☐ Run a blank (pure mobile phase) injection.

☐ Perform 2 x 100 µL injections of narrow Pullulan sample (black cap).

☐ Verify operation of the system according to the table.

Test Description	Acceptable Result	Expected Test Result	Actual Test Result
S/N ratio at 90° signal	> 100	Pass	
S/N ratio at 52° signal	> 100	Pass	
S/N ratio at 132° signal	> 100	Pass	

Test Description	Acceptable Result	Expected Test Result	Actual Test Result
Baseline Drift 90° signal	< 1.0 mV/h	Pass	
Baseline Noise 90° signal	< 0.15 mV	Pass	

Signal/Noise Test for Organic Applications (MALS Detector)

☐ **Section NOT Applicable**

☐ Follow the organic pump and system preparation procedure (see Organic Pump and System Preparation) to stabilize the pump flow.

☐ Install the checkout column:

- ☐ Agilent Advance GPC/SEC SDV Lux 100000 Å, 8 x 300 mm, 5 µm (SDA0830051E5LS), if applicable.
- ☐ Agilent PLgel MIXED-C, 7.5 x 300 mm, 5 µm (PL1110-6500), if applicable.

☐ Leave the GPC/SEC column to equilibrate (minimum 50 min).

☐ Connect the MALS to your Agilent system (detectors) and leave to equilibrate until baseline is stable.

☐ Set the following detector conditions within the installed and utilized software:

Parameter	Value
Detector temperature	30 °C
Data rate	1 Hz (digital data acquisition)
dn/dc	0.187 (literature value for Polystyrene in THF)
Refractive index	1.403
Laser power	100 %
Concentration range of standard	1.5 – 2.0 g/L
Pump flow rate	1.0 mL/min
Run time	15 min

☐ Run a blank (pure mobile phase) injection.

☐ Perform 2 x 100 µL injections of Polystyrene PS2088 sample.

☐ Verify operation of the system according to the table.

Test Description	Acceptable Result	Expected Test Result	Actual Test Result
S/N ratio for PS2088 at 90° signal	> 1000	Pass	
S/N ratio for PS2088 at 52° signal	> 1000	Pass	
S/N ratio for PS2088 at 132° signal	> 1000	Pass	

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Test Description	Acceptable Result	Expected Test Result	Actual Test Result
Baseline Drift 90° signal	< 0.1 mV/h	Pass	
Baseline Noise 90° signal	< 0.05 mV	Pass	

Guided Detector Setup and Molecular Weight Test (MALS Detector)

☐ **Section NOT Applicable**

☐ Use the already installed column.

☐ Verify all settings and parameter (especially sample concentration and dn/dc value) to determine correct molecular weight (M_W) results for the broad standard.

☐ To perform the required detector calibration with the recorded data from the previous injections, which determines the detector constants for MALS and used concentration detector:

- ☐ Run the guided detector setup, if G7890 (Agilent WinGPC) is installed.
- ☐ Run the system calibration, if G7861AA (GPC/SEC Add-on) is installed.

☐ Verify the new detector calibration by performing 2 x 100 µL injections of the broad standard (see table below for details) re-using the S/N test method.

☐ Perform M_W-Test and compare the actual results with the table:

	for organic applications	for aqueous applications
Needed Standard	psbs180k	dxt060218
dn/dc [-]	0.187	0.145
Concentration [g/L]	3 – 4 (diluted in THF)	3 – 4 (diluted in H2O)
M_W [kDa]	206	70.6
Acceptable Range [%]	±15	±15
Expected Test Result	Pass	Pass
Actual Test Result		

Detector Cleanup (MALS Detector)

☐ Flush the column with appropriate storage solvent and remove the checkout column.

☐ Flush the instrument with appropriate storage solvent.

☐ Remind the customer that a new detector calibration is recommended to verify the detector constants for the MALS and concentration detectors when the customer application needs different columns or solvents.

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G7102A ELSD, G4260B ELSD

- ☐ **Section NOT Applicable**
- ☐ Explain installation, especially installation of front drain to waste bottle, and rear exhaust tube.
- ☐ Explain why inert gas (typically nitrogen) must be used with inflammable solvents or samples.
- ☐ Explain how noble gases may give different performance. Explain the importance of setting the right pressure by using the correct pressure regulator, and avoiding pressure fluctuations.
- ☐ Explain how to avoid and check for leaks.
- ☐ Explain the operating principle of the ELSD.
- ☐ Explain the detection principle in contrast to UV/Vis (absorption vs. intensity of scattered light).
- ☐ Explain using the front panel keypad.
- ☐ Explain optimization for instrument sensitivity by monitoring solvent quality, gas cleanliness etc.
- ☐ Explain basic troubleshooting in case of baseline noise issues.
- ☐ Explain interfaces to third party instruments (if applicable).
- ☐ Explain “steam cleaning” procedure.
- ☐ Explain that no self repair is possible for internal parts due to safety reasons.

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G1364F Analytical Fraction Collector, G5664B Bio-Inert Fraction Collector

- ☐ **Section NOT Applicable**
- ☐ Explain the basic operating principle of the fraction collector, its features, and key specifications.
- ☐ Explain the importance of a delay calibration for the fraction collector.
- ☐ Demonstrate the different fraction collection modes with a demo data file.

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G5654A Bio-inert Quaternary Pump, G5628A Bio-inert Manual Injector, G5668A Bio-inert Multisampler, G5664B Bio-inert Fraction Collector

- ☐ **Section NOT Applicable**
- ☐ Explain features of the Bio-inert LC (different flow path materials, extended pH range, solvent compatibility as explained in manuals considering exceptions for flow cells).
- ☐ Explain identification of Bio-inert parts and modules (special labels and pictograms).
- ☐ Advise not to mix standard LC and 1290 Bio LC parts with 1260 Bio-inert parts and modules.
- ☐ Explain how to install and handle stainless-steel clad PEEK capillaries and Bio-inert ZDV unions.
- ☐ Explain care procedures for the 1260 Bio-inert LC:
  - ☐ Regularly rinse the system with water to prevent salt crystallization and capillary blockage.
  - ☐ Do not store the system in aqueous buffers to avoid algae growth and salt precipitation.
  - ☐ Do not apply organic solvents straight after aqueous buffers. Include an extensive system wash with water beforehand.
  - ☐ Run regular visual inspection of the system to identify and manually remove salt crystals (needle seat, manual injector ports, and capillary connections).

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G7132A Bio High-Speed Pump, G7131A/C Bio Flexible Pump, G7137A Bio Multisampler

- ☐ **Section NOT Applicable**
- ☐ Explain features of the Bio LC (use of the bio-compatible alloy in the flow path, flow cell resistance up to pH 12.5).
- ☐ Explain identification of Bio parts and modules (special labels and Bio pictograms, orange stripe on the bio-compatible capillaries).
- ☐ Advise not to mix standard LC and 1260 Bio-inert parts with 1290 Bio LC parts and modules. There is only one exception - Flush Head of the Multiwash option is a bio-inert part.
- ☐ Explain care procedures for the 1290 Bio LC System:
  - ☐ To prevent salt crystallization and capillary blockage, regularly rinse the system with water.
  - ☐ Manually switch valves (injection, column selection) during system washes with water.
  - ☐ Do not store the system in aqueous buffers to avoid algae growth and salt precipitation.
  - ☐ Do not apply organic solvents straight after aqueous buffers. Include an extensive system wash with water beforehand.
  - ☐ To identify and manually remove salt crystals (needle, needle seat, and capillary connections), run regular visual inspection of the system.
- ☐ Explain conditions when the use of Max-Light Cartridge Cell LSS (G7117-60020) can benefit from the installation of the aperture (G7117-60101).
- ☐ If Multiwash option is installed explain the limitations of the option. Multiwash option should not be used when salt-containing mobile phases are in use and is not supported when reversed-phase applications are alternated with buffer applications.
- ☐ Refer the customer to Best Practices for Using an Agilent LC System for more detailed recommendations (system flushing procedure and Multiwash limitations).

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G7179A Assist Interface, G7180A Assist Hub, M8780AA Assist Control Software

☐ **Section NOT Applicable**

☐ Explain the basic principle of the Assist, its features, and key specifications.

☐ Launch the Onboarding Guide (**Settings** > **About** > **Onboarding Guide**) with the Administrator role and review the guide.

☐ Explain the Settings.

- Authentication (local and/or OLSS)
- CDS Required
- IP Address
- Agilent Improvement Program

☐ Explain and demonstrate the Ambient Screen and Status Screen.

☐ Explain and demonstrate the Smart Purge Quick Action.

☐ Explain and demonstrate setting up tasks.

- Make Ready
- Standby

☐ Explain Health.

- Maintenance
- Diagnostics
- Insights
- Block for Service
- Troubleshooting
- Log

☐ Explain Assist settings in the Chromatography Data System (CDS).

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Instrument Maintenance

- ☐ Show where to access the LC Troubleshooting Guide (5994-0709EN) & InfinityLab LC Series User Documentation.
- ☐ Discuss proper housekeeping for an LC instrument. Refer to the information in the LC Troubleshooting Guide.
- ☐ Explain how to download and update any necessary customer-installable firmware.
- ☐ Explain available Service & Diagnostics in Lab Advisor.
- ☐ Explain that the InfinityLab LC Performance Standard is orderable and can be used to help, to troubleshoot and identify problems. Additional information can be looked up in the white paper, which is delivered with the USB-Stick or scan the code:

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Aqueous Pump and System Preparation

☐ **Section NOT Applicable**

☐ Fill a clean and sterile solvent bottle with 0.1 µm Triple-filtered water (UHP 18 MΩ or LS/MS grade) containing 0.05 % Sodium Azide (0.5 g of NaN3 in 1 L of water).

NOTE Sodium Azide (NaN3) prevents primarily algae formation in pure water and aqueous buffers, but salt addition is also required for chromatographic reasons.

If NaN3 is not available at customer sites, Sodium Chloride (1g of NaCl in 1L of water) can be used as an alternative, but it will not inhibit algae growth.

☐ Prime each pump channel from solvent bottle to pump inlet.

☐ Connect a restriction capillary (5022-2159) between pump outlet and waste.

☐ Pump to waste for 10 minutes at 0.5 ml/min.

☐ Connect the delivered in-line filter assembly (Agilent recommends: UCA431/ UCA428X with 0.5 µm cutoff or the G7808-64001 using a 0.2 µm filter membrane) after the restriction capillary.

☐ Ramp the pump flow rate very gently to 1 mL/min and pump for another 10 minutes with in-line filter connected to waste.

☐ Stop pump once pressure has stabilized following addition of in-line filter.

NOTE Do not proceed if pressure continues to increase whilst in-line filter is connected.

☐ Connect the outlet from the in-line filter to the inlet of the LS/DLS detector (Agilent MDS Dual Angle LSD or Agilent 1260 MALS).

☐ Ramp the pump flow rate very gently (0.1 ml/min) and flush the LS/DLS detector at 1.0 ml/min for another 10 minutes.

☐ Systematically check for any leaks and proceed with the detector specific section.

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Organic Pump and System Preparation

- ☐ **Section NOT Applicable**
- ☐ Fill a clean and sterile solvent bottle with stabilized tetrahydrofuran (THF).
- ☐ Prime each pump channel from solvent bottle to pump inlet.
- ☐ Connect a restriction capillary (5022-2159) between pump outlet and waste.
- ☐ Pump to waste for 10 minutes at 0.5 ml/min.
- ☐ Connect the delivered in-line filter assembly (Agilent recommends: UCA431/ UCA428X with 0.5 µm cutoff or the G7808-64001 using a 0.2 µm filter membrane) after the restriction capillary.
- ☐ Ramp the pump flow rate very gently to 1 mL/min and pump for another 10 minutes with in-line filter connected to waste.
- ☐ Stop pump once pressure has stabilized following addition of in-line filter.

NOTE Do not proceed if pressure continues to increase whilst in-line filter is connected.

- ☐ Connect the outlet from the in-line filter to the inlet of the LS/DLS detector (Agilent MDS Dual Angle LSD or Agilent 1260 MALS).
- ☐ Ramp the pump flow rate very gently (0.1 ml/min) and flush the LS/DLS detector at 1.0 ml/min for another 10 minutes.
- ☐ Systematically check for any leaks and proceed with the detector specific section.

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Service Review

- ☐ Attach available reports/printouts to this documentation.
- ☐ Complete the Service Engineer Comments section below, if applicable.
- ☐ Explain how to log an instrument service call and what support services are available.
- ☐ If not covered during the Installation, explain the Agilent Warranty policy.
- ☐ Perform a review of Agilent's website and web links listed in “Important Customer Web Links”.
- ☐ Discuss with the customer their training needs and present additional training options available through Agilent training and education and custom on-site consulting.
- ☐ Complete Signature Page and attach Signature Page to Service Order.

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Signature Page

Service Engineer Comments (optional)

If there are any specific points you wish to note as part of performing the installation or other items of interest for the customer, please write in this box.

Service Verification

Service Request Number:	Date of Service Completion: .....
Service Engineer Name:	Customer Name: .....
Service Engineer Signature:	Customer Signature: .....
Total number of pages in this document:	

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