Notices

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In This Guide...

This manual covers the Agilent InfinityLab 1260 Infinity II Prime Online LC.

1 Introduction
This chapter gives an Introduction to the Agilent 1260 Infinity II Prime Online LC.

2 Configuration Settings
This chapter describes how to configure the system.

3 Quick Start Guide
This chapter provides information on running an Agilent 1260 Infinity II Prime Online LC.

4 Parts and Consumables
This chapter provides information on additional parts and consumables.

5 Appendix
This chapter provides additional information on safety, legal, and web.
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This chapter gives an Introduction to the Agilent 1260 Infinity II Prime Online LC.
Product Description

The 1260 Infinity II Prime Online LC System is a process analysis system enabling automated process monitoring, providing real-time data for greater control and faster understanding of processes.

The system supports direct injections for fast process monitoring. It also features retain-sample functionality for dilutions or automated sample preparation steps, multimethod analysis, or sample archiving purposes for offline quality control.
Introduction

Features

- Dedicated process analytical technology (PAT) tool for online and at-line process analysis via LC applications.
- Enables fast process monitoring of critical process parameters (CPPs) and critical quality attributes (CQAs) via direct injections, providing real-time data for greater control and faster understanding of processes.
- Features retain-sample functionality for dilutions (including reaction quenching), multimethod analysis, automated sample preparation, additional offline quality control, or sample archiving purposes.
- Brings hybrid injection technology to the LC world: Both classical flow-through injection and Feed Injection are supported, guaranteeing seamless method transfer and the capability to mediate strong sample diluent effects via Feed Injection.
- Enables utmost control over the process sample and facilitates method development.
- Coordinates sampling and sample analysis via Agilent Online LC Monitoring Software, compatible with OpenLab CDS 2 and designed for process applications.
- Online LC Monitoring Software allows for intuitive sample scheduling to quickly set up sampling events, and provides data visualization tools such as trending plots to easily monitor the process.
- Supports flow rates up to 5 mL/min within a pressure range up to 800 bar for maximum application flexibility.
Introduction
System Components

System Components

The Agilent 1260 Infinity II Prime Online LC System consists of the following components:

- 1260 Infinity II Flexible Pump (G7104C)
- 1260 Infinity II Online Sample Manager Set (G3167AA):
  - 1260 Infinity II Online Sample Manager (G3167A)
  - External Sampling Valve: Universal Valve Drive (G1170A), equipped with a 3-position/6-port FI Valve
- Multicolumn Thermostat (G7116A)
- Diode Array Detector (G7115A DAD), Variable Wavelength (G7114A VWD), Refractive Index (G7162A RID), or Fluorescence Detector (G7121A FLD).
- Solvent Cabinet

The 1260 Infinity II Prime Online LC is described in more detail in the following sections. The primary configuration choice of the modules is stacked on the InfinityLab FlexBench to ensure highest flexibility.

For specification, please see the individual module user documentation.
**Flexible Pump G7104C**

The Agilent 1260 Infinity II Flexible Pump improves your everyday efficiency by combining the performance of a high-pressure mixing UHPLC pump with the flexibility of a low-pressure mixing UHPLC pump.

The power range of 5 mL/min with a maximum pressure up to 800 bar allows to run HPLC and UHPLC methods on the same LC system. Intelligent System Emulation Technology enables the transfer from existing methods from different LC systems - current Agilent systems as well as instruments from other manufacturers.

The Agilent Inlet Weaver mixer, active damping, or the optional Agilent Jet Weaver mixers for additional mixing capacity achieve high analytical efficiency.

The established multipurpose valve enhances laboratory efficiency by adding useful functionalities, for example, mixer in/out switch, filter backflush, or automatic purge.

BlendAssist software simplifies your workflow with accurate buffer/additive blending.

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**Figure 1  Overview of the Flexible Pump**
Online Sample Manager Set G3167AA

The Agilent 1260 Infinity II Online Sample Manager Set (G3167AA) consists of the Agilent 1260 Infinity II Online Sample Manager (G3167A) and the Agilent 1290 Infinity II Valve Drive (G1170A) with External Sampling Valve, see Figure 2 on page 10.

Online Sample Manager G3167A

The Agilent 1260 Infinity II Online Sample Manager is an online sampling module that connects the analytical world with the process world. The module provides automated sample analysis via direct injections or retained samples from flow reactors, batch reactors, as well as upstream bioreactors and downstream purification devices.

The Online Sample Manager supports both classical flow-through injection and Feed Injection, mediating the chromatographic sample diluent incompatibility of challenging process samples. The Online Sample Manager provides automated dilutions of up to 1:1000, retain-sample functionality, and direct analysis of the process samples, as well as automated sample preparation.

Figure 2  Overview of the Online Sample Manager Set modules
Universal Valve Drive G1170A

The Agilent 1290 Infinity II Valve Drive (G1170A) is an external valve drive that can be equipped with different valve heads. It comes with a flexible mounting bracket for left- or right-side mounting on LC stacks. The 1290 Infinity II Valve Drive is compatible with all currently available InfinityLab Quick Change Valve heads to allow maximum flexibility and a variety of applications.

In the 1260 Online Sample Manager, it is used with a special valve head (3-position/6-port FI) and serves as an external sampling interface. The external sampling interface is highly synchronized with the inner valve of the 1260 Online Sample Manager. It transfers the sample from the process stream into the 1260 Online Sample Manager and enables automated process monitoring.

![Overview of the External Sampling Valve](image)

Figure 3 Overview of the External Sampling Valve
**Multicolumn Thermostat G7116A**

The Agilent 1260 Infinity II Multicolumn Thermostat (MCT) facilitates precise column thermostatting over a broad temperature range with cooling down to 10 °C below ambient temperature and heating up to 85 °C.

This capability provides robust and reliable separations for maximum application flexibility. Exchangeable high-pressure valves enable a wide range of applications such as column selection of up to four columns, sample preparation for analyte enrichment or matrix removal, or alternating column regeneration.

The MCT matches perfectly with all InfinityLab LC Series systems and can also be combined with 1290 Infinity II Series modules as well as with previous 1260 Infinity and 1290 Infinity Series modules.

**Figure 4  Overview of the Multicolumn Thermostat**
Diode Array Detector WR G7115A

The Agilent 1260 Infinity II DAD WR detector is designed for highest optical performance, GLP compliance, and easy maintenance. With its 120 Hz data acquisition rate the detector is perfectly suited for fast LC applications. The long–life deuterium lamps allow highest intensity and lowest detection limits over a wavelength range of 190 – 950 nm. The use of RFID tags for all flow cells and UV-lamps provides traceable information about these assemblies.

The built-in holmium oxide filter features the fast wavelength accuracy verification, while the built-in temperature controls improves the baseline stability. Additional diagnostic signals for temperature and lamp voltage monitoring are available.

![Overview of the detector](image)
Variable Wavelength Detector G7114A

The Agilent 1260 Infinity II Variable Wavelength Detector (VWD) is the most sensitive and fastest detector in its class.

Time-programmable wavelength switching provides sensitivity and selectivity for your applications.

More sample information can be acquired in the dual wavelength mode.

Low detector noise (<±2.5 µAU) and baseline drift (<1·10^-4 AU/h) facilitates precise quantification of trace levels components.

High productivity can be achieved with fast analysis at up to 120 Hz data rates.

![Overview of the detector](image-url)
Fluorescence Detector G7121A

The proven optical and electronic design of the Agilent 1260 Infinity II Fluorescence Detector provides highest sensitivity for the analysis of trace-level components. Time-programmable excitation and emission wavelength switching allows you to optimize the detection sensitivity and selectivity for your specific applications. High-speed detection with up to 74 Hz data rates keeping you pace with the analysis speed of fast LC.

Figure 7  Overview of the detector
RefRACTive INDEX DETECTOR G7162A

The Agilent 1260 Infinity II Refractive Index Detector (RID) is the ideal detector for fast and reliable LC results when routinely analyzing non-UV absorbing substances, such as carbohydrates, lipids, and polymers. The 1260 Infinity II RID is also the detector of choice for gel permeation chromatography (GPC) or size exclusion chromatography (SEC).

**Figure 8  Overview of the detector**
Optimizing the Stack Configuration

To ensure safe operation and optimum performance of an Agilent InfinityLab Online LC System, Agilent Technologies prescribe stack configurations. The following configurations are possible:

- InfinityLab Flex Bench, providing highest flexibility
- InfinityLab Benchtop
- One Stack (maximal 4 modules, in a bench rack or directly on the bench)
- Two Stacks (in a bench rack or directly on the bench)

The table below summarizes the advantages of the different prescribed configurations.

Table 1  Overview on pros and cons of different stack configurations

<table>
<thead>
<tr>
<th>Modules in a stack</th>
<th>InfinityLab Flex Bench Configuration</th>
<th>Single Stack Configuration</th>
<th>Two Stacks Configuration</th>
</tr>
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<tbody>
<tr>
<td>fewer than 5</td>
<td>Pros</td>
<td>Pros</td>
<td>Pros</td>
</tr>
<tr>
<td></td>
<td>• no bench required</td>
<td>• minimal bench space</td>
<td>• lower stacks</td>
</tr>
<tr>
<td></td>
<td>• mobile</td>
<td>• required</td>
<td>• flexible combinations</td>
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<tr>
<td></td>
<td>• optimal access to the modules,</td>
<td>• high stack</td>
<td>• maximum bench space</td>
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<td></td>
<td>solvent bottles, pumps, columns,</td>
<td></td>
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<td>and accessories</td>
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<td>• integrated waste concept</td>
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<td>5 and more</td>
<td>+ possible</td>
<td>- not possible</td>
<td>+ possible</td>
</tr>
</tbody>
</table>


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Optimizing the Stack Configuration

InfinityLab Flex Bench Configuration

Agilent recommends to use the InfinityLab Flex Bench for all Agilent LC systems. Main features:
• Increases flexibility in the lab
• Safe moving of LC
• Easy stack customization
• Included waste management
Introduction
Optimizing the Stack Configuration

Figure 9 Flex Bench Online LC System Configuration

- Solvent cabinet
- Detector
- Column compartment
- Online sample manager
- Pump
- Shelves
- Handle grip
- External sampling valve
- Container for waste bottles
- Wheel locking brake
Introduction
Optimizing the Stack Configuration

InfinityLab Benchtop Configuration

Figure 10  Benchtop Online LC System Configuration
Online LC System Stack Configurations

One Stack Configuration

Ensure optimum performance by stacking the modules as shown exemplarily in One stack configuration. This configuration optimizes the flow path for minimum delay volume and minimizes the bench space required (Figure 11 on page 21).
**Two Stack Configuration**

To avoid excessive height of the stack (for example when using the system in combination with an additional detector) it is recommended to form two stacks.

![Two Stack Online LC System Configuration](image-url)

*Figure 12 Two Stack Online LC System Configuration*
Leak and Waste Handling

The Agilent InfinityLab Online LC System has been designed for safe leak and waste handling. It is important that all security concepts are understood and instructions are carefully followed.

The solvent cabinet is designed to store a maximum volume of 8 L solvent. The maximum volume for an individual bottle stored in the solvent cabinet should not exceed 2 L. For details, see the usage guideline for the Agilent Infinity II Solvent Cabinets (a printed copy of the guideline has been shipped with the solvent cabinet, electronic copies are available on the Internet).

All leak plane outlets are situated in a consistent position so that all Infinity and Infinity II modules can be stacked on top of each other. Waste tubes are guided through a channel on the right hand side of the instrument, keeping the front access clear from tubes.

The leak plane provides leak management by catching all internal liquid leaks, guiding them to the leak sensor for leak detection, and passing them on to the next module below, if the leak sensor fails. The leak sensor in the leak plane stops the running system as soon as the leak detection level is reached.

Solvent and condensate is guided through the waste channel into the waste container:

- from the detector’s flow cell outlet
- from the Online Sample Manager needle wash port
- from the Sample Cooler or Sample Thermostat (condensate)
- from the pump’s Seal Wash Sensor (if applicable)
- from the pump’s Purge Valve or Multipurpose Valve
- from the External Sampling Valve’s leak pane
Introduction
Leak and Waste Handling

Figure 13  Infinity II Prime Online LC System Leak Waste Concept (Flex Bench installation)
Introduction

Leak and Waste Handling

Figure 14  Infinity II Prime Online LC System One Stack Leak Waste Concept (bench installation)
The waste tube connected to the leak pane outlet on each of the bottom instruments guides the solvent to a suitable waste container.
Waste Guidance

- The waste drainage must go straight into the waste containers. The waste flow must not be restricted at bends or joints.
Waste Concept

1. Agilent recommends using the 6 L waste can with 1 Stay Safe cap GL45 with 4 ports (5043-1221) for optimal and safe waste disposal. If you decide to use your own waste solution, make sure that the tubes don't immerse in the liquid.
2 Configuration Settings

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This chapter describes how to configure the system.
General Information on LAN Configuration

LAN configuration is executed from the module with direct LAN connection to the controller software. This must be the module (usually the detector) with the highest data rate.
Hardware Configuration Settings

Example shows an instrument configuration with a Diode Array Detector.

1. Set the switches of the Configuration switch at the rear of the module:
   a. All switches DOWN: module uses the default IP address 192.168.254.11.
   b. Switch 4 UP and others DOWN: module uses DHCP.
   c. Switch 5 UP and others DOWN: modules uses STORED address.
2 Enter the setup information (MAC\(^1\) / IP address and/or Instrument Name).

a Agilent OpenLab CDS (Configure Instrument):

b Lab Advisor (Instrument Overview - Add Instrument):

\(^1\) MAC address can only be used in DHCP DIP-switch configuration.
Lab Advisor

1. In the Action Panel of the System Overview, click Add System.
The Add System dialog box is displayed.

2 Enter a name in the Instrument Name field.

NOTE
If your system comprises just one instrument, the Instrument Name is copied to the System Name field.

3 Enter the connection details in the Instrument Address field.

NOTE
The Instrument Address can be an IP address, the host name or, if you are connecting using a serial cable, the COM port.
4 Click the **Instrument Type** down-arrow and select the type of instrument you are adding from the list. The default setting is **Agilent LC/CE**. Additional instrument types become available when the respective add-ons are installed.

**NOTE**

By default, the **Instrument Type** drop-down list contains only the entry **Agilent LC/CE**. Additional instrument types can be added by installing the respective add-ons (see “Installing Add-ons” on page 37).
5 If your system comprises more than one instrument, click **Add Instrument** and complete the details as above.

As soon as you add a second instrument, the **System Name** field is activated to allow you to edit the system name.

6 Click **OK** to finish adding the system and close the **Add System** dialog box. The system becomes visible in the **System Overview**, and Lab Advisor tries to connect to it.
Installing Add-ons

Add-ons are installed from the Configuration screen, using a Lab Advisor Extension file with the extension.LAX.

You need Administrator rights in order to install Add-ons.

1. In the Global Tasks section of the Navigation Panel, click **Configuration**. The Configuration screen is displayed.

2. Click **Add-ons** to navigate to the **Configuration - Add-ons** screen.

![Add-ons in Configuration](image)

The Configuration - Add-ons screen contains a table listing all the Add-ons that are already installed.
3 Click **Install from .lax file**.

A file selection dialog box is displayed to allow you to select the App or Add-on to install.

4 Navigate to the folder containing the Add-on files, select the .lax file and click **Open** to install the Add-on.

5 Click **Yes** when the request to shut down Lab Advisor appears.

Lab Advisor shuts down and the Add-on installation is started.

![Lab Advisor Extension Installer](image)

When the installation is finished, the newly installed Add-on is included in the table in the **Configuration - Add-ons** screen.
Software Configuration Settings

Configuration of the Online Sample Manager Set in OpenLab CDS

To control the Online LC System, the Online LC Monitoring Software is required. This software relies on an OpenLab CDS v2.x Workstation Plus installation.

The configuration of the Online LC System with Online Sample Manager Set needs to be done in OpenLab CDS to enable control functions through the Online LC Monitoring Software.

1. Open the Agilent OpenLab Control Panel:

2. Select the Instruments tab:
3  Select the location of the new instrument:

   To create and edit locations, refer to the Control Panel online help.

   ![Image of software interface showing Instruments and locations]

   **NOTE**
   You can also add instruments directly in the **Instruments** node.

4  Click **Create >Create Instrument**

   ![Image of software interface showing Create Instrument]

5  Enter the instrument details and click **OK**.
6. Navigate to the new instrument and click the **Configure Instrument** icon or right click the instrument name and select **Configure Instrument**.

7. Use Autoconfiguration if possible.  
   OR  
   Select the module(s) for the instrument configuration and click the > button.

8. Enter the IP address for the configured LC system and click **OK**.

9. Select the clustering option for the Online Sample Manager and External Valve Drive.
Check the configuration of the External Sampling Valve type and select the Sample Thermostat option (if installed).

- **Device name**: based on the module.
- **Type ID**: based on the module (product number). Some modules may allow changing the type based on hardware/firmware. This results in a change of features and functions.
- **Serial number**: based on the module.
- **Firmware revision**: based on the module.
- **Options**: lists installed options.
Online LC Monitoring Software System Configuration

User Interface Reference

This section contains descriptions of all items of the Online LC Monitoring Software user interface:

- Menus,
- Toolbars, and
- Dialog boxes.

The following figure gives an overview on terms used to describe user interface elements.

Figure 17  Overview of the Online LC Monitoring Software graphical user interface (GUI) - Configuration view
Figure 18  Overview of the Online LC Monitoring Software graphical user interface (GUI) - Experiment Setup view
Figure 19  Overview of the Online LC Monitoring Software graphical user interface (GUI) - Experiment Run view
Configure a System

Create the System

1. In the navigation pane select Configuration view.

The Online Monitoring System specific Ribbon and Configuration in the Navigation pane are visible.

2. Synchronize with external equipment with the slider next to the installed OpenLab CDS (optional).

The available analytical instruments are listed in the project and can be updated.

3. In the Home Ribbon tab click Create.

The Create Online Monitoring System window opens.
Configure the System

In Create Online Monitoring System:

1. To name your system appropriately, fill in the field **Name**.
2. Specify the system **Location** (optional).
3. Select an **Analytical Instrument** from the dropdown list.
4. Select a **Sample Delivery** option from the dropdown list.

Save the Configuration

1. To save your configuration click **Create**.
Modify an Existing System

1. In the Online Monitoring Systems selector, select the system.
2. In the Home Ribbon tab, click Edit.

The fields **Name** and **Location** are now editable.

![Edit ribbon tab](image)

Figure 21  Configuration view of Online LC System without Sample Delivery Device
Hide/Unhide an Existing System

1. To hide an existing system, in the Home Ribbon tab click Hide.

   ![Hide Icon]

   The system is inactive.

2. To unhide a hidden system, in the Home Ribbon tab click Unhide.

   ![Unhide Icon]

   The system is active.
Setup the ERI Interface

The Online Monitoring System consists of an analytical system and a sample delivery device (optional). To enable communication between the analytical and the sample delivery part of the system, the Online LC Monitoring Software supports configuration of an ERI interface.

This interface enables the following functions:

- Trigger a sample delivery pump (Generic Sample Delivery Pump)
- Communicate with a Process Sampler (Generic Sample Delivery Device)

Set up the ERI interface for a Generic Sample Delivery Pump

1. To enable triggering Pump on (OUT), select the correct Pin from the drop-down list.
2. Select the correct Polarity from the drop-down list.
3. Define Pump time [s] in the field.

Set up the ERI interface for a Generic Sample Delivery Device

1. Define parameters for Sample request (OUT):
   a. Select correct Pin from drop-down list.
   b. Select correct Polarity from drop-down list.
   c. Define Pulse [s] in the field.
2. Define Sample ready (IN):
   a. Select correct Pin from drop-down list.
   b. Select correct Polarity from drop-down list.
   c. Define Timeout [min] in the field.
3. Define parameters for Sampling done (OUT):
   a. Select correct Pin from drop-down list.
   b. Select correct Polarity from drop-down list.
   c. Define Pulse [s] in the field.

NOTE
The correct Pin depends on the hardware cabling. For Pin assignment, see the remote cable details in the corresponding chapter of the Online LC Solution User Manual.

NOTE
The correct Polarity depends on the sample delivery hardware.

NOTE
The Timeout [min] value defines the time, how long the software waits for an answer from the sample delivery device.

If no answer is coming back, the software sets this sample to missed and continues working on other items.
Configure Automatic Notifications

Preparations
The required Experiment Setup is selected and in Edit mode.

Configure the SMTP Server
1. Under ribbon tab File, click Email.
2. To configure the SMTP Server, fill in the following fields (entries depend on the Email-Server):
   - Host, Sender Email (Mandatory)
   - Port, Password (Optional)
3. Click Save Settings.

Define Email recipient groups in the step System
1. To add an Email recipients group, under Notification Settings >Email click +.

To define a target Email group, enter a meaningful Name to the field.

   a. To add Email recipients to the group, click .
   OR

   To remove Email recipients from the group, click .

An Email recipient group is defined.
Define ERI signals for automatic notifications in the step System

1. To add a Notification Settings > ERI signal, click +.

2. To define the ERI signal, enter a meaningful Name to the field.
   a. Select the ERI signal Pin from the drop-down list.
   b. Define the ERI signal Polarity from the drop-down list.
   c. Enter the ERI signal duration to the field Pulse [s].

Remove Email recipients or ERI signals

1. To remove Email recipients or ERI signals from the automatic Notification Settings, select the group and click .
Define recipients of automatic notifications depending on notification events

1. To define the automatic notification depending on optional events, under **Conditioning >Notifications** select recipients from the drop-down list.
2 In Experiment Setup, click **Save**.

The automatic notification is configured.
This chapter provides information on running an Agilent 1260 Infinity II Prime Online LC.
Best Practices

Daily / Weekly tasks

Daily Tasks

• Replace solvents and solvent bottles for mobile phases based on water/buffer.
• Replace solvents and solvent bottles for organic mobile phase latest every second day.
• Check presence of seal wash solvent.
• Purge each channel with fresh solvent at 2.5 – 3 mL/min for 5 min before operation.
• Equilibrate the system with composition and flow rate of subsequent method.

Weekly Tasks

• Change seal wash solvent (10 % isopropanol in water) and bottle.
• If applications with salts were used, flush all channels with water and remove possible salt deposits manually.
• Inspect solvent filters for dirt or blockages. Exchange if no flow is coming out of the solvent line when removed from the degasser inlet.

Power-up / Shut-down the pump

Prepare the Pump

• Use fresh or different mobile phase (as required).
• Purge each channel with 2.5 – 3 mL/min for 5 min. Open the manual purge valve or use the purge command, depending on the pump type.

Long-term shut-down of the system

• Flush system with water to remove buffer.
• Remove all samples from the sampler and store according to good laboratory practice.
• Use recommended solvents to store the system.
• Power off the system.
Prepare the pump

Purge

Use the Purge function to:
• fill the pump,
• exchange a solvent,
• remove air bubbles in tubes and pump heads.

Condition

Use the Conditioning function:
• daily when starting the pump,
• to minimize pressure ripple by dissolving air bubbles in pump heads.

Condition your complete system with solvents and composition of your application (for example 50 %/50 % A/B at 0.5 mL/min).

Seal wash

Seal Wash guarantees a maximum seal life time. Use Seal Wash:
• When using buffers with elevated salt concentrations
• When using volatile solvents with non-volatile additives

Contaminated seal wash solvent

✓ Do not recycle seal wash solvent to avoid contamination.
✓ Weekly exchange seal wash solvent.
How to deal with solvents

- Use clean bottles only.
- Exchange water-based solvents daily.
- Select solvent volume to be used up within 1 – 2 days.
- Use only HPLC-grade solvents and water filtered through 0.2 µm filters.
- Label bottles correctly with bottle content, and filling date / expiry date.
- Use solvent inlet filters.
- Reduce risk of algae growth: use brown bottles for aqueous solvents, avoid direct sunlight.

Select channels for Gradient Valve

- Use lower channels (A and/or D) for buffer solutions.
- Regularly flush all gradient channels with water to remove possible salt deposits.
- Check compatibility of buffers and organic solvents to avoid precipitation.
Optional Inline Filter

The pump can be equipped with an additional inline filter (Inline filter assembly, material: stainless steel (5067-5407) or Inline Filter Assembly biocompatible (5720-0003)) with a nominal filter pore size of 0.3 µL.

Advantages of the inline filter:
• Very small internal volume
• Specified for working at high pressures
• Possibility of back-flushing the filter

Using the inline filter is recommended:
• to protect the downstream system from blockages,
• for solvent combinations that can form precipitation after mixing,
• for applications running with buffers.

General hints for effective use of the inline filter:
• filter solvents before use,
• follow best practices,
• back-flush the filter weekly,
• exchange the filter frit regularly.

Damage to the valve

✓ Use the filter flush mode only if the optional inline filter is installed.

See Technote G7167-90130 for further reference.
Prepare a Run

Prepare the run in OpenLab CDS

This procedure examplarily shows how to prepare a run. Parameters as shown in the screenshots may vary, depending on the system installed.

**WARNING**

Toxic, flammable and hazardous solvents, samples and reagents

The handling of solvents, samples and reagents can hold health and safety risks.

- When working with these substances observe appropriate safety procedures (for example by wearing goggles, safety gloves and protective clothing) as described in the material handling and safety data sheet supplied by the vendor, and follow good laboratory practice.

- Do not use solvents with an auto-ignition temperature below 200 °C (392 °F). Do not use solvents with a boiling point below 56 °C (133 °F).

- Avoid high vapor concentrations. Keep the solvent temperature at least 40 °C (72 °F) below the boiling point of the solvent used. This includes the solvent temperature in the sample compartment. For the solvents methanol and ethanol keep the solvent temperature at least 25 °C (45 °F) below the boiling point.

- Do not operate the instrument in an explosive atmosphere.

- Do not use solvents of ignition Class IIC according IEC 60079-20-1 (for example, carbon disulfide).

- Reduce the volume of substances to the minimum required for the analysis.

- Never exceed the maximum permissible volume of solvents (8 L) in the solvent cabinet. Do not use bottles that exceed the maximum permissible volume as specified in the usage guideline for solvent cabinet.

- Ground the waste container.

- Regularly check the filling level of the waste container. The residual free volume in the waste container must be large enough to collect the waste liquid.

- To achieve maximal safety, regularly check the tubing for correct installation.
Quick Start Guide

Prepare a Run

1. Switch on the detector.

2. Fill the solvent bottles with adequate solvents for your application.

3. Place solvent tubings with bottle head assemblies into the solvent bottles.

4. Place solvent bottles into the solvent cabinet.

5. Set the **Bottle Fillings** option (in the software).
6 Purge the pump (in normal usage scenario).

OR

Prime the pump (after installation of the system).

**NOTE**
For details on priming and purging, refer to the technical note *Best Practices for Using an Agilent LC System*. 
7 Adjust solvent composition after pump prime/purge (if necessary).
8 Set the tray configuration of the Online Sample Manager through the Assign Wellplates option.

9 Add a new column.
10 Enter the column information.
11 Select the column position.
12 Set the detector according to the needs of your method.
Prepare the run in the Online LC Monitoring Software

Setup an Experiment

Create a new Experiment Setup

For detailed information on the available GUI-elements, see the Online Help of the Online LC Monitoring Software.

1. To enable setup of an experiment, in the Navigation pane click **Experiment Setup**.

   ![Experiment Setup](image)

2. In the **Home** Ribbon tab, click **Create**.

   ![Create](image)

   The **Create experiment setup** window opens.

   ![Create experiment setup](image)
3 Prepare a Run

From the drop-down list, select an **Online Monitoring System** and click **Create**.

You can now set up an experiment.

Define and Describe an Experiment

In the **Overview** Workspace:

1. Define a **Name** and add a **Description**.

   **NOTE**

   You can change name and description of an experiment at any time.

Continue to set up the experiment.
Setup Method Sets

The user needs to define the analytical methods to be used during the experiment.

In the step System:

1. To define your method sets, in the Analytical Instrument Workspace click:

   ![Image](image1)

   This action adds a method set to the Definition of method sets table. You can select the desired method from a dropdown list.

   NOTE

   All in the dropdown lists available methods derive from OpenLab CDS, where they must be defined for your instrument.

   For details, see Home > How To > OpenLab CDS > Acquisition > Acquisition Overview.

2. In the Conditioning Workspace define additional settings (optional) for Start, Finish, and Sleep/WakeUp functions. For details, see the Online Help of the Online LC Monitoring Software.

   The System is defined.

Add Sampling Settings

The step Samples allows the user to setup multiple sampling modes. For detailed information, see the Online LC Monitoring Software Online Help or refer to the Agilent InfinityLab Online LC Solution User Manual.

Customize a Samples injection

1. To add a Samples injection, in the Samples window click:

   ![Image](image2)

2. To add a Controls injection, in the Controls window click:
Define Experiment Schedule

The 1260 Online Sample Manager Set and the Online LC Monitoring software are designed to monitor chemical reactions.

Since chemical reactions can vary greatly in time, it is essential to define reasonable times when samples should be taken. The step Schedules provides a table to enter meaningful values.

1. To change Rule based settings, click:
   - The window, where you can edit these previously set up settings, opens.

2. To add a Time based sampling event to the schedule, click:
   - a Select Setting from a dropdown list.

These settings were defined in the step Samples.

You can click to see and change these settings.

b Fill in Start time, and optionally two of the following parameters:
   - To calculate End time, fill in Interval and Count.
   - To calculate Count, fill in Interval and Start last action.
   - To calculate Interval, fill in Count and Start last action.

The software automatically calculates the missing parameter.

To identify time conflicts, use the window Preview:

Problematic entries are marked orange.
Example for conflicting entries

Define Compound Limits

To set up warning limits for compound values, the user can define **Upper limits** and/or **Lower limits** at certain time points.

### Limits

**Definition of Compound Limits in step Limits**

1. Select **Compound Name** and **Response** from drop-down lists.
2. To add a limit, click:
   
   ![This adds a row to the Compound Limit table.]

   Define at least two lower limits.

**NOTE**

To enable this option, the compound must be calibrated in the OpenLab CDS Data Analysis method that was selected in the table for definition of Method Sets in the step System during Experiment Setup.
Edit an Existing Experiment Setup

It is possible to edit an existing experiment setup.

1. In the **Experiment Setup** Navigation pane select the experiment.

   ![Experiment Setup pane]

2. In the **Home** Ribbon tab click **Edit**.

   ![Edit button]

   You can now edit the settings.
Run an Experiment

Start an Experiment

1. In the navigation pane select Experiment Run view.

   ![Experiment Run]

   The Experiment Run specific Ribbon and Experiment Run in the Navigation pane are visible.

2. In the Home Ribbon tab click Create new experiment.

   ![Create new experiment]

   The window Create new experiment opens.

3. Select an Experiment Setup from the dropdown list.

   ![Experiment Setup]

   The dropdown list contains the options, that were created under Experiment Setup.
Quick Start Guide
Prepare a Run

[OPTIONAL] 4 Define a tag/value pair (e.g. customer specific information to categorize the experiment).
- To add a tag/value pair, use:

- To delete a tag/value pair, use:

NOTE This information can be modified during the experiment run, and is visible in report, and csv export.

[OPTIONAL] 5 Select the Require manual stop check box.

If selected, the experiment will not finish automatically and needs to be explicitly stopped by the user. By selecting the checkbox, the experiment can be edited in real-time during an ongoing run.

6 To start the experiment, click Create.

Create

Experiment starts.

NOTE To stop an experiment, in the Ribbon click Stop experiment.

You are asked to note down, why you stopped the execution of the experiment.

NOTE It is possible to add injections to an experiment. The software therefore provides a table and assists in finding possible settings.
Prepare an Experiment

To successfully run an experiment, the user must provide all source and/or target locations in the step Preparation.

1. Select an action.
2. To specify the source/target location, use the graphical display.

**NOTE**

It is not possible to specify used locations.

The minimum number of required target values is shown.
The setting remains incomplete, if the required number of vial locations is not reached.

**NOTE**

An incomplete setting prevents the start of the experiment.
3 Monitor the experiment run in the step **Execution**.

As long as the experiment runs, the following windows help to change or monitor valuable additional information:

- **Experiment Info**
  It is possible to edit informations about the experiment.

- **Activity Log**
  Provides detailed information about the experiment.

- **Modify Setting**

- **Method Sets**
  Shows the Method Sets of the experiment in the run.
System Checkout

Checkout Procedure in OpenLab CDS

Checkout Method

This is an examplary method for the Agilent InfinityLab Online LC Series.

Examplary configuration:

• Flexible Pump G7104C
• Online Sample Manager G3167A
• Multicolumn Thermostat G7116A
• Diode Array Detector WR G7115A

The RRLC checkout sample (5188-6529) serves as standard for gradient systems and contains 100 ng/µL each of nine components dissolved in water / acetonitrile (65/35). The nine components are:

• Acetanilide
• Acetophenone
• Propiophenone
• Butyrophenone
• Benzophenone
• Valerophenone
• Hexanophenone
• Heptanophenone
• Octanophenone
Find the correct settings for the individual modules here:

- Checkout method parameter settings Flexible Pump (G7104C) (Table 2 on page 79)
- Checkout method parameter settings Online Sample Manager G3167A) (Table 3 on page 80)
- Checkout method parameter settings Multicolumn Thermostat (G7116A) (Table 4 on page 80)
- Checkout method parameter settings Diode Array Detector HS (G7117C) or Diode Array Detector WR (G7115A) (Table 5 on page 81)
- Checkout method parameter settings Variable Wavelength Detector (G7114A) (Table 6 on page 81)

**Checkout column options:**

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>693575-302</td>
<td>InfinityLab Poroshell 120 2.7 µm EC-C18, 3.0 x 150 mm, 1000 bar</td>
</tr>
<tr>
<td>695575-302</td>
<td>InfinityLab Poroshell 120 2.7 µm EC-C18, 3.0 x 100 mm, 1000 bar</td>
</tr>
<tr>
<td>699675-902</td>
<td>InfinityLab Poroshell 120 1.9 µm EC-C18, 2.1 x 50 mm, 1300 bar</td>
</tr>
</tbody>
</table>

**Table 2  Checkout method parameter settings Flexible Pump (G7104C)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow</td>
<td>0.8 mL/min</td>
</tr>
<tr>
<td>Solvent A</td>
<td>Water</td>
</tr>
<tr>
<td>Solvent B</td>
<td>ACN</td>
</tr>
<tr>
<td>Compressibility</td>
<td>Use solvent types</td>
</tr>
<tr>
<td>Composition</td>
<td>5 %B (ACN)</td>
</tr>
<tr>
<td>Composition</td>
<td>95 %A (Water)</td>
</tr>
<tr>
<td>Stoptime</td>
<td>5 min</td>
</tr>
<tr>
<td>Pressure Limit</td>
<td>800 bar</td>
</tr>
<tr>
<td>Minimum Stroke</td>
<td>Automatic</td>
</tr>
<tr>
<td>Timetable</td>
<td>2.5 min95 %B</td>
</tr>
<tr>
<td>Posttime</td>
<td>1 min</td>
</tr>
</tbody>
</table>
### Table 3  Checkout method parameter settings Online Sample Manager (G3167A)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injection</td>
<td>1 µL</td>
</tr>
<tr>
<td>Stoptime</td>
<td>as pump</td>
</tr>
<tr>
<td>Draw speed</td>
<td>100 µL/min</td>
</tr>
<tr>
<td>Flowthrough</td>
<td>ADVR active</td>
</tr>
<tr>
<td></td>
<td>Sample Flush Out Factor 3.0</td>
</tr>
<tr>
<td>Feed</td>
<td>Feed Speed Adaptive 80 %</td>
</tr>
<tr>
<td></td>
<td>Sample Flush Out Factor Automatic</td>
</tr>
</tbody>
</table>

### Table 4  Checkout method parameter settings Multicolumn Thermostat (G7116A)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature (left)</td>
<td>40 °C</td>
</tr>
<tr>
<td>Temperature (right)</td>
<td>combined</td>
</tr>
<tr>
<td>Stoptime</td>
<td>as pump</td>
</tr>
</tbody>
</table>
### System Checkout

#### Table 5  Checkout method parameter settings Diode Array Detectors (G7115A/G7117C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal A</td>
<td>254/4 nm</td>
</tr>
<tr>
<td>Ref A</td>
<td>360/100 nm</td>
</tr>
<tr>
<td>Peakwidth</td>
<td>40 Hz</td>
</tr>
<tr>
<td>Stoptime</td>
<td>as pump</td>
</tr>
<tr>
<td>Spectrum</td>
<td>None</td>
</tr>
<tr>
<td>Autobalance</td>
<td>Prerun</td>
</tr>
</tbody>
</table>

#### Table 6  Checkout method parameter settings Variable Wavelength Detector (G7114A)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength</td>
<td>254 nm</td>
</tr>
<tr>
<td>Peakwidth</td>
<td>40 Hz</td>
</tr>
<tr>
<td>Stoptime</td>
<td>as pump</td>
</tr>
<tr>
<td>Autobalance</td>
<td>Prerun</td>
</tr>
</tbody>
</table>
Setup the Checkout Method

The setup of the checkout method in this procedure is an example. For the individual module parameters, see Checkout Method ("Checkout Method" on page 78).

1. Turn on the lamp.
2. Load the default method Untitled.amx.
3. Change the method and timetable settings for the 1260 Infinity II Flexible Pump (G7104C).

Figure 22  Method settings 1260 Infinity II Flexible Pump (G7104C)
System Checkout

Figure 23  Timetable settings 1260 Infinity II Flexible Pump (G7104C)
Change the method settings for the 1260 Infinity II Online Sample Manager (G3167A).

Figure 24  Method settings 1260 Infinity II Online Sample Manager (G3167A) - Flow Through Injection Mode
Figure 25  Method settings 1260 Infinity II Online Sample Manager (G3167A) - Feed Injection Mode
Figure 26  Method settings 1260 Infinity II Online Sample Manager (G3167A) - Injection Path Cleaning for Flow Through Injection
Figure 27  Method settings 1260 Infinity II Online Sample Manager (G3167A) - Injection Path Cleaning for Feed Injection

NOTE
For detailed information of the method settings, see Method Parameter Settings in the Agilent InfinityLab Online LC Solution User Manual.
Change the method settings for the 1260 Infinity II Multicolumn Thermostat (G7116A)

Figure 28 Method setting 1260 Infinity II Multicolumn Thermostat (G7116A)
6 Change the method settings for the 1260 Infinity II Diode Array Detector WR (G7115A)

7 Save the methods as CheckOut_FTI.amx (for Flowthrough injection) and CheckOut_FI.amx (for Feed Injection).

8 Equilibrate the system for 10 min under checkout conditions.
9 Run the CheckOut_FTI.amx checkout method in OpenLab CDS and evaluate the analysis results.

NOTE Perform this run using the 1260 Online Sample Manager in the configuration delivered from the factory. Do not install the capillary connections to the External Sampling Valve before.

10 Create a data analysis method in OpenLab D/A for the calibrated components of the checkout sample mixture. Use the analysis results of the method CheckOut_FTI.amx.

11 Save the method as CheckOut_DA.pmx.
Checkout Procedure in Online LC Monitoring Software

This procedure describes the checkout procedure for the 1260 Infinity II Online Sample Manager Set.

1. Connect the capillaries between the Online Sample Manager and External Sampling Valve. For guidance, see the Agilent 1260 Infinity II Online Sample Manager Set Installation Guide.

2. Perform a Sampler Leak Test through the Lab Advisor Software. Use a blank nut to block the flow-path in port 6 of the Online Sample Manager Injection Valve.

3. To test for leaks in the injection and sampling flow-path, perform the Hydraulic Path Leak Test through the Lab Advisor Software.

4. Create the Experiment in the Online LC Monitoring Software. See the Online Help for guidance.

5. Create the Method Set for Feed Injection in the Online LC Monitoring Software. See the Online Help for guidance.
   a. Use the Feed Injection method, previously created in OpenLab CDS, as acquisition method.
   b. Use the previously created Checkout D/A method in OpenLab CDS as data analysis method.

6. Create the Method Set for Flowthrough Injection in the Online LC Monitoring Software. See the Online Help for guidance.
   a. Use the Flowthrough Injection method, previously created in OpenLab CDS, as acquisition method.
   b. Use the previously created Checkout D/A method in OpenLab CDS as data analysis method.

7. Create a sample type for 1 µL Direct Feed Injection from the External Sampling Valve.

8. Create a sample type for 1 µL Direct Flowthrough Injection from the External Sampling Valve.

9. Create two sample types for Sample Diluted to Vial (30 µL) with 20-times dilution (target volume: 600 µL) with sequential:
   a. 20 µL Direct Feed Injection from the vial with diluted sample.
   b. 20 µL Direct Flowthrough Injection from the vial with diluted sample.

10. Arrange a schedule for the previously created samples in the Online LC Monitoring Software.
11 Prepare the Online LC System for the checkout as described in the *Agilent 1260 Infinity II Online Sample Manager Set Installation Guide*.
   a Collect 250 µL of the checkout sample into the syringe from the Checkout Kit.
   b Attach the syringe containing the checkout sample to the Syringe Adapter installed on the External Sampling Valve.

12 Execute the Experiment run.
   a Specify the two vials for the runs of the 20-times diluted checkout sample collected as Sample Diluted to Vial, and scheduled with sequential Direct Feed and Flowthrough Injection.
   b Supply 50 – 80 µL of the checkout sample for each of the runs with injection from the External Sampling Valve.
   c Evaluate the Experiment run results. Use the chromatogram overlay and peak area trending plots for it.

![Figure 30 Evaluation of the experiment results example](image-url)
4 Parts and Consumables

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This chapter provides information on additional parts and consumables.
### Online Sample Manager Accessory Kit

<table>
<thead>
<tr>
<th>Item</th>
<th>#</th>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>G3167-68000</td>
<td>1260 Infinity II Online Sample Manager Accessory Kit</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>8121-3099</td>
<td>CAN Cable, 1 m, flat (not shown)</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>G3167-42000</td>
<td>Single Holder UVD Multi Function</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>0515-5869</td>
<td>Screw-Tapping Pan-HD Hexalobular-Recess (not shown)</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>5043-1356</td>
<td>Column Holder Lamella</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>2110-1486</td>
<td>Fuse 2 AT250 V</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>5043-0270</td>
<td>Leak plane</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>5043-0271</td>
<td>Holder leak plane</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>5067-4792</td>
<td>Leak sensor assembly</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>5063-6527</td>
<td>Tubing, Silicon Rubber, 1.2 m, ID/OD 6/9 mm</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>5500-1156</td>
<td>T-Tube Connector ID6.4</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>5067-6680</td>
<td>3-position/6-port FI valve 800 bar</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>5004-0011</td>
<td>Capillary ST 0.12 mm x 160 mm SL/SL</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>5005-0057</td>
<td>Capillary ST 0.17 mm x 160 mm SL/SL</td>
</tr>
<tr>
<td>14</td>
<td>3</td>
<td>G4220-60007</td>
<td>Bottle Head Assembly</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>5004-0014</td>
<td>Capillary ST 0.17 mm x 500 mm SX/SL (not shown)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>5004-0015</td>
<td>Tubing PTFE 0.8 mm x 180 mm SL/no (not shown)</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>5043-1013</td>
<td>Tubing Clip IF-II (not shown)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>5067-5967</td>
<td>Tubing Clip Tube Connector (not shown)</td>
</tr>
</tbody>
</table>
Figure 31  1260 Infinity II Online Sample Manager Accessory Kit
### Online LC System Checkout Kit

<table>
<thead>
<tr>
<th>#</th>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>G3167-67702</td>
<td>Online LC System Checkout Kit</td>
</tr>
<tr>
<td>1</td>
<td>5190-1519</td>
<td>Syringe, 250 µL, Luer lock</td>
</tr>
<tr>
<td>1</td>
<td>5190-1550</td>
<td>Needle</td>
</tr>
<tr>
<td>1</td>
<td>9301-0407</td>
<td>Syringe, External Valve adapter, SST</td>
</tr>
<tr>
<td>1</td>
<td>5062-8535</td>
<td>Waste accessory kit</td>
</tr>
<tr>
<td>2</td>
<td>0100-1816</td>
<td>Fitting male PEEK, long</td>
</tr>
</tbody>
</table>
Online Sample Manager Capillary Kit

<table>
<thead>
<tr>
<th>Item</th>
<th>#</th>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>G3167-67000</td>
<td>G3167A Online Sample Manager Capillary Kit</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>5500-1159</td>
<td>Capillary ST 0.17 mm x 100 mm SX/S-2.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PS Capillary</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>5500-1234</td>
<td>Capillary ST 0.17 mm x 180 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MD Capillary</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>5067-5403</td>
<td>UHP fitting</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>5004-0011</td>
<td>Capillary ST 0.12 mm x 160 mm SL/SL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Transfer Capillary I</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>5005-0057</td>
<td>Capillary ST 0.17 mm x 160 mm SL/SL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Transfer Capillary II</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>5067-5709</td>
<td>Capillary ST 0.25 mm x 250 mm S/S</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FH Capillary</td>
</tr>
</tbody>
</table>

Figure 32  Online Sample Manager Capillary Kit
## Parts and Consumables
### System Specific Kits

### Online Sample Manager Set PM Kit

<table>
<thead>
<tr>
<th>Item</th>
<th>#</th>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>G3167-67001</td>
<td>G3167AA Online Sample Manager Set PM Kit</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>G4267-87201</td>
<td>Needle Assembly</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>G3167-60018</td>
<td>Needle Seat Capillary ST 0.17 mm x 230 mm SL/SL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(UHP fitting (5067-5403) is shown as pre-installed but included as a separate part)</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>5068-0279</td>
<td>Rotor Seal, 3-position/6-port FI Valve</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>5067-5918</td>
<td>Flush Head Seal 500 µL</td>
</tr>
</tbody>
</table>

![Figure 33](image)  
**Figure 33** Online Sample Manager Set PM Kit
Tool Kit

G7120-68708 InfinityLab System Tool Kit

Box with:
- 9301-0411 (Syringe, Plastic)
- 9301-1337 (Syringe Adapter)
- 0100-1710 (Mounting tool for flangeless nut)
- 0100-1681 (Adapter luer/barb)
- 01018-23702 (Seal Insert tool)
- 5067-6127 (Blank Nut V)
- 5023-2653 (Hex Key 3/32"")
System Convenience Kits

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5067-6617</td>
<td>InfinityLab convenience kit, for 1260 Infinity II LC</td>
</tr>
</tbody>
</table>

includes:
• solvent bottles 1 L (3 clear, 1 amber),
• identification rings and removable stickers for solvent bottles,
• vials (2 mL) clear with bonded preslit caps (500/pk),
• solvent inlet filters stainless steel (4/pk),
• inline filter kit, multifunction tool,
• Stay Safe cap starter kit, and
• complete contents of 1260 Infinity II capillary kit (5067-6614)

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5067-6614</td>
<td>InfinityLab capillary kit, 0.17 mm, for 1260 Infinity II LC</td>
</tr>
</tbody>
</table>

includes:
• complete set of system capillaries,
• Quick Connect and Quick Turn fittings,
• PEEK finger-tight fittings,
• stainless steel restriction capillary, and
• blank nut
Infinity Lab Quick Connect and Quick Turn Fittings

### InfinityLab Quick Connect Fittings

![InfinityLab Quick Connect Fitting](image.png)

**Figure 34**  InfinityLab Quick Connect Fitting

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5067-5965</td>
<td>InfinityLab Quick Connect LC fitting (fitting without preinstalled capillary)</td>
</tr>
<tr>
<td>5043-0924</td>
<td>Front Ferrule for Quick Connect/Turn Fitting</td>
</tr>
<tr>
<td>5067-5961</td>
<td>InfinityLab Quick Connect Assy ST 0.075 mm x 105 mm</td>
</tr>
<tr>
<td>5067-6163</td>
<td>InfinityLab Quick Connect Assy ST 0.075 mm x 150 mm</td>
</tr>
<tr>
<td>5067-6164</td>
<td>InfinityLab Quick Connect Assy ST 0.075 mm x 220 mm</td>
</tr>
<tr>
<td>5067-6165</td>
<td>InfinityLab Quick Connect Assy ST 0.075 mm x 280 mm</td>
</tr>
<tr>
<td>5067-5957</td>
<td>InfinityLab Quick Connect Assy ST 0.12 mm x 105 mm</td>
</tr>
<tr>
<td>5067-5958</td>
<td>InfinityLab Quick Connect Assy ST 0.12 mm x 150 mm</td>
</tr>
<tr>
<td>5067-5959</td>
<td>InfinityLab Quick Connect Assy ST 0.12 mm x 220 mm</td>
</tr>
<tr>
<td>5067-5960</td>
<td>InfinityLab Quick Connect Assy ST 0.12 mm x 280 mm</td>
</tr>
<tr>
<td>5067-6166</td>
<td>InfinityLab Quick Connect Assy ST 0.17 mm x 105 mm</td>
</tr>
<tr>
<td>5067-6167</td>
<td>InfinityLab Quick Connect Assy ST 0.17 mm x 150 mm</td>
</tr>
<tr>
<td>5067-6168</td>
<td>InfinityLab Quick Connect Assy ST 0.17 mm x 220 mm</td>
</tr>
<tr>
<td>5067-6169</td>
<td>InfinityLab Quick Connect Assy ST 0.17 mm x 280 mm</td>
</tr>
</tbody>
</table>
### InfinityLab Quick Connect Fitting Replacement Capillaries

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5500-1174</td>
<td>InfinityLab Capillary ST 0.075 mm x 105 mm</td>
</tr>
<tr>
<td>5500-1175</td>
<td>InfinityLab Capillary ST 0.075 mm x 150 mm</td>
</tr>
<tr>
<td>5500-1176</td>
<td>InfinityLab Capillary ST 0.075 mm x 220 mm</td>
</tr>
<tr>
<td>5500-1177</td>
<td>InfinityLab Capillary ST 0.075 mm x 250 mm</td>
</tr>
<tr>
<td>5500-1178</td>
<td>InfinityLab Capillary ST 0.075 mm x 280 mm</td>
</tr>
<tr>
<td>5500-1173</td>
<td>InfinityLab Capillary ST 0.12 mm x 105 mm</td>
</tr>
<tr>
<td>5500-1172</td>
<td>InfinityLab Capillary ST 0.12 mm x 150 mm</td>
</tr>
<tr>
<td>5500-1171</td>
<td>InfinityLab Capillary ST 0.12 mm x 220 mm</td>
</tr>
<tr>
<td>5500-1170</td>
<td>InfinityLab Capillary ST 0.12 mm x 280 mm</td>
</tr>
<tr>
<td>5500-1179</td>
<td>InfinityLab Capillary ST 0.12 mm x 400 mm</td>
</tr>
<tr>
<td>5500-1180</td>
<td>InfinityLab Capillary ST 0.12 mm x 500 mm</td>
</tr>
<tr>
<td>5500-1181</td>
<td>InfinityLab Capillary ST 0.17 mm x 105 mm</td>
</tr>
<tr>
<td>5500-1182</td>
<td>InfinityLab Capillary ST 0.17 mm x 150 mm</td>
</tr>
<tr>
<td>5500-1183</td>
<td>InfinityLab Capillary ST 0.17 mm x 220 mm</td>
</tr>
<tr>
<td>5500-1230</td>
<td>InfinityLab Capillary ST 0.17 mm x 280 mm</td>
</tr>
<tr>
<td>5500-1231</td>
<td>InfinityLab Capillary ST 0.17 mm x 500 mm</td>
</tr>
<tr>
<td>5500-1259</td>
<td>InfinityLab Capillary ST 0.25 mm x 150 mm</td>
</tr>
<tr>
<td>5500-1260</td>
<td>InfinityLab Capillary ST 0.25 mm x 400 mm</td>
</tr>
</tbody>
</table>
InfinityLab Quick Turn Fitting

![InfinityLab Quick Turn Fitting](image)

Figure 35  InfinityLab Quick Turn Fitting

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5067-5966</td>
<td>InfinityLab Quick Turn Fitting</td>
</tr>
<tr>
<td>5043-0924</td>
<td>Front Ferrule for Quick Connect/Turn Fitting</td>
</tr>
</tbody>
</table>
Capillaries for use with the InfinityLab Quick Turn Fitting

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5500-1198</td>
<td>Capillary ST 0.075 mm x 105 mm, long socket</td>
</tr>
<tr>
<td>5500-1232</td>
<td>Capillary ST 0.075 mm x 150 mm, long socket</td>
</tr>
<tr>
<td>5500-1206</td>
<td>Capillary ST 0.075 mm x 250 mm, long socket</td>
</tr>
<tr>
<td>5500-1205</td>
<td>Capillary ST 0.075 mm x 500 mm, long socket</td>
</tr>
<tr>
<td>5500-1188</td>
<td>Quick Turn Capillary ST 0.12 mm x 105 mm, long socket</td>
</tr>
<tr>
<td>5500-1189</td>
<td>Capillary ST 0.12 mm x 150 mm, long socket</td>
</tr>
<tr>
<td>5500-1233</td>
<td>Capillary ST 0.12 mm x 180 mm, long socket</td>
</tr>
<tr>
<td>5500-1190</td>
<td>Capillary ST 0.12 mm x 200 mm, long socket</td>
</tr>
<tr>
<td>5500-1191</td>
<td>InfinityLab Quick Turn Capillary ST 0.12 mm x 280 mm, long socket</td>
</tr>
<tr>
<td>5500-1192</td>
<td>Capillary ST 0.12 mm x 500 mm, long socket</td>
</tr>
<tr>
<td>5500-1193</td>
<td>InfinityLab Quick Turn Capillary ST 0.17 mm x 105 mm, long socket</td>
</tr>
<tr>
<td>5500-1194</td>
<td>Capillary ST 0.17 mm x 150 mm, long socket</td>
</tr>
<tr>
<td>5500-1234</td>
<td>Capillary ST 0.17 mm x 180 mm</td>
</tr>
<tr>
<td>5500-1195</td>
<td>Capillary ST 0.17 mm x 200 mm, long socket</td>
</tr>
<tr>
<td>5500-1196</td>
<td>Capillary ST 0.17 mm x 280 mm, long socket</td>
</tr>
<tr>
<td>5500-1235</td>
<td>Capillary ST 0.17 mm x 380 mm, long socket</td>
</tr>
<tr>
<td>5500-1236</td>
<td>Capillary ST 0.17 mm x 400 mm, long socket</td>
</tr>
<tr>
<td>5500-1197</td>
<td>Capillary ST 0.17 mm x 500 mm, long socket</td>
</tr>
<tr>
<td>5500-1237</td>
<td>Capillary 0.17 mm x 700 mm, ns/ns</td>
</tr>
<tr>
<td>5500-1262</td>
<td>Capillary 0.25 mm x 150 mm, ns/ns</td>
</tr>
<tr>
<td>5500-1263</td>
<td>Capillary ST 0.25 mm x 400 mm, long socket</td>
</tr>
<tr>
<td>5500-1200</td>
<td>Quick Turn Capillary ST 0.12 mm x 130 mm SL/M</td>
</tr>
<tr>
<td>5500-1288</td>
<td>Capillary ST 0.12 mm x 150 mm, long socket, M4</td>
</tr>
<tr>
<td>5500-1290</td>
<td>Capillary ST 0.17 mm x 150 mm, long socket, M4</td>
</tr>
</tbody>
</table>
## Safety Caps and Solvent Bottles

### Stay Safe Caps

Table 7  Stay Safe Caps

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Fittings</th>
<th>Vent Ports</th>
<th>Filter Ports</th>
<th>Waste Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1217</td>
<td>GL45 with 1 port 1 vent valve with time strip</td>
<td>1 x 3.2 mm</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5043-1218</td>
<td>GL45 with 2 ports 1 vent valve with time strip</td>
<td>2 x 3.2 mm</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5043-1219</td>
<td>GL45 with 3 ports 1 vent valve with time strip</td>
<td>3 x 3.2 mm</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5043-1220</td>
<td>GL45 with 4 ports 1 leak hose</td>
<td>4 (2 x 3.2 mm, 1 x 2.3 mm, 1 x 1.6 mm)</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

![Figure 36 Solvent bottle with different types of Stay Safe caps](image)

---

**Parts and Consumables**

Safety Caps and Solvent Bottles
## Parts and Consumables
### Safety Caps and Solvent Bottles

### Kits

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1221</td>
<td>6 L waste can with 1 Stay Safe cap GL45 with 4 ports</td>
</tr>
</tbody>
</table>

![Figure 37 Kit: Waste can with Stay Safe cap](image)

Figure 37  Kit: Waste can with Stay Safe cap
## Solvent Bottles

![Solvent Bottles](image)

**Figure 38  Solvent bottles**

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9301-6523</td>
<td>Solvent bottle, clear, 500 mL with cap</td>
</tr>
<tr>
<td>9301-6524</td>
<td>Solvent bottle, clear, 1000 mL</td>
</tr>
<tr>
<td>9301-6525</td>
<td>Solvent bottle, amber, 500 mL with cap</td>
</tr>
<tr>
<td>9301-6526</td>
<td>Solvent bottle, amber, 1000 mL</td>
</tr>
<tr>
<td>9301-6527</td>
<td>Solvent bottle, clear, 125 mL</td>
</tr>
<tr>
<td>9301-6528</td>
<td>Solvent bottle, clear, 1000 mL with cap</td>
</tr>
<tr>
<td>9301-6529</td>
<td>Identification silicone ring (8/pk with 4 different colors)</td>
</tr>
<tr>
<td>9301-6530</td>
<td>Sticker for solvent bottles (100/pk)</td>
</tr>
</tbody>
</table>
## Additional Parts

For fitting ports:

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1216</td>
<td>Fitting for 3.2 mm tubing, PFA, 2/pk</td>
</tr>
<tr>
<td>5043-1215</td>
<td>Fitting for 2.3 mm tubing, PFA, 2/pk</td>
</tr>
<tr>
<td>5043-1214</td>
<td>Fitting for 1.6 mm tubing, PFA, 2/pk</td>
</tr>
<tr>
<td>5043-1198</td>
<td>Screw plug 1/8 in, PTFE, 2/pk</td>
</tr>
</tbody>
</table>

For vent port:

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1190</td>
<td>Venting valve with time strip, PTFE, 1 µm</td>
</tr>
</tbody>
</table>

For filter port:

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1193</td>
<td>Charcoal filter with time strip (58 g) for waste container</td>
</tr>
</tbody>
</table>

For waste port:

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1207</td>
<td>2-ports waste collector, PTFE</td>
</tr>
</tbody>
</table>

Miscellaneous:

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1191</td>
<td>Thread adapter PTFE GL45 (M) - GL40 (F)</td>
</tr>
<tr>
<td>5043-1192</td>
<td>Thread adapter PTFE GL45 (M) - GPI 38-430 (F)</td>
</tr>
</tbody>
</table>
InfinityLab Flex Bench Family

InfinityLab Flex Bench

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1252</td>
<td>InfinityLab Flex Bench</td>
</tr>
<tr>
<td>5043-1759</td>
<td>InfinityLab Flex Bench with pre-assembled power strip</td>
</tr>
</tbody>
</table>

The Flex Bench includes the framework, four shelf assemblies, and one waste bin.

Accessories:

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1287</td>
<td>Shelf assembly</td>
</tr>
<tr>
<td>8121-1245</td>
<td>Valve shelf assembly</td>
</tr>
<tr>
<td>5043-1278</td>
<td>Waste bin</td>
</tr>
<tr>
<td>8121-2258</td>
<td>Power cord</td>
</tr>
<tr>
<td>5043-1289</td>
<td>InfinityLab Flex Bench Replacement Kit</td>
</tr>
<tr>
<td></td>
<td>(spare parts: screws and casters)</td>
</tr>
</tbody>
</table>
InfinityLab Benchtop

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1711</td>
<td>InfinityLab Benchtop</td>
</tr>
<tr>
<td>5043-1740</td>
<td>InfinityLab Benchtop with pre-assembled power strip</td>
</tr>
</tbody>
</table>

The Benchtop includes the framework and three shelf assemblies.

Accessories:

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5043-1750</td>
<td>Shelf assembly</td>
</tr>
<tr>
<td>8121-1245</td>
<td>Valve shelf assembly</td>
</tr>
<tr>
<td>8121-2258</td>
<td>Power cord</td>
</tr>
<tr>
<td>5043-1289</td>
<td>InfinityLab Flex Bench Replacement Kit (spare parts: screws and casters)</td>
</tr>
</tbody>
</table>
5  Appendix

Safety  112
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Radio Interference  121
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Capillary Connections  126
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This chapter provides additional information on safety, legal, and web.
General Safety Information

The following general safety precautions must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the instrument. Agilent Technologies assumes no liability for the customer’s failure to comply with these requirements.

**WARNING**

Ensure the proper usage of the equipment.
The protection provided by the equipment may be impaired.

✔ The operator of this instrument is advised to use the equipment in a manner as specified in this manual.

Safety Standards

This is a Safety Class I instrument (provided with terminal for protective earthing) and has been manufactured and tested according to international safety standards.

General

Do not use this product in any manner not specified by the manufacturer. The protective features of this product may be impaired if it is used in a manner not specified in the operation instructions.
Before Applying Power

**WARNING**
Wrong voltage range, frequency or cabling
Personal injury or damage to the instrument

- Verify that the voltage range and frequency of your power distribution matches to the power specification of the individual instrument.
- Never use cables other than the ones supplied by Agilent Technologies to ensure proper functionality and compliance with safety or EMC regulations.
- Make all connections to the unit before applying power.

**NOTE**
Note the instrument’s external markings described under “Symbols” on page 116.

Ground the Instrument

**WARNING**
Missing electrical ground
Electrical shock

- If your product is provided with a grounding type power plug, the instrument chassis and cover must be connected to an electrical ground to minimize shock hazard.

- The ground pin must be firmly connected to an electrical ground (safety ground) terminal at the power outlet. Any interruption of the protective (grounding) conductor or disconnection of the protective earth terminal will cause a potential shock hazard that could result in personal injury.

Do Not Operate in an Explosive Atmosphere

**WARNING**
Presence of flammable gases or fumes
Explosion hazard

- Do not operate the instrument in the presence of flammable gases or fumes.
Appendix

Safety

Do Not Remove the Instrument Cover

**WARNING**

Instrument covers removed

- **Electrical shock**

- ✓ Do Not Remove the Instrument Cover

- ✓ Only Agilent authorized personnel are allowed to remove instrument covers. Always disconnect the power cables and any external circuits before removing the instrument cover.

Do Not Modify the Instrument

Do not install substitute parts or perform any unauthorized modification to the product. Return the product to an Agilent Sales and Service Office for service and repair to ensure that safety features are maintained.

In Case of Damage

**WARNING**

- Damage to the module

- Personal injury (for example electrical shock, intoxication)

- ✓ Instruments that appear damaged or defective should be made inoperative and secured against unintended operation until they can be repaired by qualified service personnel.
Solvents

**WARNING**

Toxic, flammable and hazardous solvents, samples and reagents

The handling of solvents, samples and reagents can hold health and safety risks.

- When working with these substances observe appropriate safety procedures (for example by wearing goggles, safety gloves and protective clothing) as described in the material handling and safety data sheet supplied by the vendor, and follow good laboratory practice.

- Do not use solvents with an auto-ignition temperature below 200 °C (392 °F). Do not use solvents with a boiling point below 56 °C (133 °F).

- Avoid high vapor concentrations. Keep the solvent temperature at least 40 °C (72 °F) below the boiling point of the solvent used. This includes the solvent temperature in the sample compartment. For the solvents methanol and ethanol keep the solvent temperature at least 25 °C (45 °F) below the boiling point.

- Do not operate the instrument in an explosive atmosphere.

- Do not use solvents of ignition Class IIC according IEC 60079-20-1 (for example, carbon disulfide).

- Reduce the volume of substances to the minimum required for the analysis.

- Never exceed the maximum permissible volume of solvents (8 L) in the solvent cabinet. Do not use bottles that exceed the maximum permissible volume as specified in the usage guideline for solvent cabinet.

- Ground the waste container.

- Regularly check the filling level of the waste container. The residual free volume in the waste container must be large enough to collect the waste liquid.

- To achieve maximal safety, regularly check the tubing for correct installation.

**NOTE**

For details, see the usage guideline for the solvent cabinet. A printed copy of the guideline has been shipped with the solvent cabinet, electronic copies are available in the Agilent Information Center or via the Internet.
## Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Exclamation]</td>
<td>The apparatus is marked with this symbol when the user shall refer to the instruction manual in order to protect risk of harm to the operator and to protect the apparatus against damage.</td>
</tr>
<tr>
<td>![Electricity]</td>
<td>Indicates dangerous voltages.</td>
</tr>
<tr>
<td>![Ground]</td>
<td>Indicates a protected ground terminal.</td>
</tr>
<tr>
<td>![Hot Surface]</td>
<td>The apparatus is marked with this symbol when hot surfaces are available and the user should not touch it when heated up.</td>
</tr>
<tr>
<td>![Snowflake]</td>
<td>Sample Cooler unit is designed as vapor-compression refrigeration system. Contains fluorinated greenhouse gas (refrigerant) according to the Kyoto protocol. For specifications of refrigerant, charge capacity, carbon dioxide equivalent (CDE), and global warming potential (GWP) see instrument label.</td>
</tr>
</tbody>
</table>
| ![Flammable] | Flammable Material
For Sample Thermostat which uses flammable refrigerant consult Agilent Information Center / User Manual before attempting to install or service this equipment. All safety precautions must be followed. |
| ![CE] | Confirms that a manufactured product complies with all applicable European Community directives. The European Declaration of Conformity is available at: [http://regulations.corporate.agilent.com/DoC/search.htm](http://regulations.corporate.agilent.com/DoC/search.htm) |
| ![Calendar] | Manufacturing date. |
| ![Power] | Power symbol indicates On/Off. The apparatus is not completely disconnected from the mains supply when the power switch is in the Off position. |
| ![Heart] | Pacemaker
Magnets could affect the functioning of pacemakers and implanted heart defibrillators. A pacemaker could switch into test mode and cause illness. A heart defibrillator may stop working. If you wear these devices keep at least 55 mm distance to magnets. Warn others who wear these devices from getting too close to magnets. |
Appendix
Safety

Magnetic field
Magnets produce a far-reaching, strong magnetic field. They could damage TVs and laptops, computer hard drives, credit and ATM cards, data storage media, mechanical watches, hearing aids and speakers. Keep magnets at least 25 mm away from devices and objects that could be damaged by strong magnetic fields.

Indicates a pinching or crushing hazard

Indicates a piercing or cutting hazard.

**Table 8 Symbols**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Symbol" /></td>
<td>Magnetic field</td>
</tr>
<tr>
<td><img src="image2.png" alt="Symbol" /></td>
<td>Indicates a pinching or crushing hazard</td>
</tr>
<tr>
<td><img src="image3.png" alt="Symbol" /></td>
<td>Indicates a piercing or cutting hazard</td>
</tr>
</tbody>
</table>

**WARNING**
alerts you to situations that could cause physical injury or death.

✓ Do not proceed beyond a warning until you have fully understood and met the indicated conditions.

**CAUTION**
alerts you to situations that could cause loss of data, or damage of equipment.

✓ Do not proceed beyond a caution until you have fully understood and met the indicated conditions.
Electrical and chemical Hazards specific to the System

Equipotential grounding

**CAUTION**
Different potential grounding of reactor and LC instrument
Electronic failure and damage to the instrument by melting capillaries
✓ Ensure the equipotential grounding of all instruments.
✓ Use capillaries made of nonconductive material.

Increased touch current

**WARNING**
Combination of Online LC system and external reactor installation
Personal injury by increased touch current
✓ Verify that the current range matches the specifications of the system.
✓ To ensure proper functionality and compliance with safety or EMC regulations, use the multiple socket outlet distributed by Agilent Technologies only.

Chemicals from Reactor stream

**WARNING**
Hazardous chemicals and vapors from reactor stream
Exposure with hazardous chemicals and vapors can hold health and safety risks
✓ Verify the correct installation of all components.
✓ Use a leak tray with leak sensor for the external valve.
✓ Locate the system in an appropriate safety area isolated from office facilities.
✓ Ensure that the leak handling system accounts for toxic samples and provides a separate waste container for the external valve.
✓ Do not exceed the pressure limits specified for the reactor stream.
✓ Consider the specifications for the samples to be collected to avoid blockage of the reactor stream flow path.
Vial Handling

**WARNING**

Hazardous chemicals and vapors from the reactor stream

Exposure with hazardous chemicals and vapors can hold health and safety risks

- Always insert correct vials into the module.
- Use the vial presence sensing technology.
- Ensure that the installed vials are appropriate for the volume of the collected sample.

Flammable Solvents from the Reactor stream

**WARNING**

Leak of flammable solvents

Explosive hazard and personal injury

- Verify the correct installation of all components.
- Use a leak tray with leak sensor for the external valve.
- Locate the system in an appropriate safety area.
- Ensure that the leak handling system accounts for toxic samples and provides a separate waste container for the external valve.
- Do not exceed the pressure limits specified for the reactor stream.
- Consider the specifications for the samples to be collected to avoid blockage of the reactor stream flow path.

Flammable Solvents in Vials

**WARNING**

Leak of flammable solvents

Explosive hazard and personal injury

- Always insert correct vials into the module.
- Use the vial presence sensing technology.
- Ensure that the installed vials are appropriate for the volume of the collected sample.
Waste Electrical and Electronic Equipment Directive

This product complies with the European WEEE Directive marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste.

NOTE
Do not dispose of in domestic household waste
To return unwanted products, contact your local Agilent office, or see https://www.agilent.com for more information.
Radio Interference

Cables supplied by Agilent Technologies are screened to provide optimized protection against radio interference. All cables are in compliance with safety or EMC regulations.

Test and Measurement

If test and measurement equipment is operated with unscreened cables, or used for measurements on open set-ups, the user has to assure that under operating conditions the radio interference limits are still met within the premises.
Appendix

Sound Emission

Sound pressure
Sound pressure $L_p < 70 \text{ db(A)}$ according to DIN EN ISO 7779

Schalldruckpegel
Schalldruckpegel $L_p < 70 \text{ db(A)}$ nach DIN EN ISO 7779
Solvent Information

Flow Cell

To protect optimal functionality of your flow-cell:
• Avoid the use of alkaline solutions (pH > 9.5) which can attack quartz and thus impair the optical properties of the flow cell.

Use of Solvents

Observe the following recommendations on the use of solvents.
• Brown glass ware can avoid growth of algae.
• Avoid the use of the following steel-corrosive solvents:
  • solutions of alkali halides and their respective acids (for example, lithium iodide, potassium chloride, and so on),
  • high concentrations of inorganic acids like sulfuric acid and nitric acid, especially at higher temperatures (if your chromatography method allows, replace by phosphoric acid or phosphate buffer which are less corrosive against stainless steel),
  • halogenated solvents or mixtures which form radicals and/or acids, for example:
    \[2\text{CHCl}_3 + \text{O}_2 \rightarrow 2\text{COCl}_2 + 2\text{HCl}\]
    This reaction, in which stainless steel probably acts as a catalyst, occurs quickly with dried chloroform if the drying process removes the stabilizing alcohol,
  • chromatographic grade ethers, which can contain peroxides (for example, THF, dioxane, diisopropyl ether) should be filtered through dry aluminium oxide which adsorbs the peroxides,
  • solvents containing strong complexing agents (e.g. EDTA),
  • mixtures of carbon tetrachloride with 2-propanol or THF.
• Avoid the use of dimethyl formamide (DMF). Polyvinylidene fluoride (PVDF), which is used in leak sensors, is not resistant to DMF.
UV Radiation

Emissions of ultraviolet radiation (200 – 315 nm) from this product is limited such that radiant exposure incident upon the unprotected skin or eye of operator or service personnel is limited to the following TLVs (Threshold Limit Values) according to the American Conference of Governmental Industrial Hygienists:

Table 9  UV radiation limits

<table>
<thead>
<tr>
<th>Exposure/day</th>
<th>Effective irradiance</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 h</td>
<td>0.1 µW/cm²</td>
</tr>
<tr>
<td>10 min</td>
<td>5.0 µW/cm²</td>
</tr>
</tbody>
</table>

Typically the radiation values are much smaller than these limits:

Table 10  UV radiation typical values

<table>
<thead>
<tr>
<th>Position</th>
<th>Effective irradiance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamp installed, 50 cm distance</td>
<td>average 0.016 µW/cm²</td>
</tr>
<tr>
<td>Lamp installed, 50 cm distance</td>
<td>maximum 0.14 µW/cm²</td>
</tr>
</tbody>
</table>
Appendix
Declaration of Conformity for HOX2 Filter

Declaration of Conformity

We herewith inform you that the

**Holmium Oxide Glass Filter**

used in Agilent's absorbance detectors listed in the table below meets the requirements of National Institute of Standards and Technology (NIST) to be applied as certified wavelength standard.

According to the publication of NIST in J. Res. Natl. Inst. Stand. Technol. 112, 303-306 (2007) the holmium oxide glass filters are inherently stable with respect to the wavelength scale and need no recertification. The expanded uncertainty of the certified wavelength values is 0.2 nm.

Agilent Technologies guarantees, as required by NIST, that the material of the filters is holmium oxide glass representing the inherently existent holmium oxide absorption bands.

Test wavelengths:
Where *x* can be any alphanumeric character

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Series</th>
<th>Measured Wavelength *</th>
<th>Wavelength Accuracy</th>
<th>Optical Bandwidth</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1315x, G1365x</td>
<td>1100, 1200, 1260</td>
<td>361.0 nm 418.9 nm 453.7 nm 536.7 nm</td>
<td>+/- 1 nm</td>
<td>2 nm</td>
</tr>
<tr>
<td>G7115x, G7165x</td>
<td>1260</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G1690x, G7100x</td>
<td>CE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G1314x</td>
<td>1100, 1200, 1260, 1290</td>
<td>360.8nm 418.5nm 536.4nm</td>
<td>+/- 1 nm</td>
<td>6 nm</td>
</tr>
<tr>
<td>G7114x</td>
<td>1260, 1290</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G4286x, ..., 94x</td>
<td>1120, 1220</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*) The variation in Measured Wavelength depends on the different Optical Bandwidth.

28-Oct-2014

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(Date)

[Signature]
(R&D Manager)

[Signature]
(Quality Manager)

P/N 89550-90501
Revision: G
Effective by: 28-Oct-2014
Capillary Connections

Capillaries and connections for generic LC systems. For detailed information about the capillary connections of the Online Sample Manager Set, see Agilent InfinityLab Online LC Solution User Manual.

Table 11  Recommended capillary connections for 1260 Infinity II systems

<table>
<thead>
<tr>
<th>p/n</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottle Head Assembly (G7120-60007)</td>
<td>Solvent Bottle</td>
<td>Infinity II Pump</td>
</tr>
<tr>
<td>Capillary ST 0.17 mm x 500 mm SI/SI (5500-1246)</td>
<td>Pump</td>
<td>Sampler</td>
</tr>
<tr>
<td>Capillary, ST, 0.17 mm x 900 mm SI/SX (5500-1217)</td>
<td>Pump</td>
<td>Vialsampler with ICC</td>
</tr>
<tr>
<td>Capillary ST 0.17 mm x 500 mm SI/SI (5500-1246)</td>
<td>Multisampler / Online Sample Manager</td>
<td>MCT Valve/Heat Exchanger</td>
</tr>
<tr>
<td>Capillary, ST, 0.17 mm x 400 mm SL/SL (5500-1252)</td>
<td>Vialsampler</td>
<td>MCT Valve/Heat Exchanger</td>
</tr>
<tr>
<td>Capillary ST 0.17 mm x 105 mm SL/SL (5500-1240)</td>
<td>Vialsampler</td>
<td>ICC Heat Exchanger</td>
</tr>
<tr>
<td>Capillary, ST, 0.17 mm x 120 mm SL/SL, long socket (5500-1250)</td>
<td>ICC Heat Exchanger</td>
<td>Column</td>
</tr>
<tr>
<td>InfinityLab Quick Turn Capillary ST 0.17 mm x 105 mm, long socket (5500-1193)</td>
<td>MCT Heat Exchanger</td>
<td>Column</td>
</tr>
<tr>
<td>InfinityLab Quick Turn Capillary ST 0.12 mm x 280 mm, long socket (5500-1191)</td>
<td>Column/MCT Valve</td>
<td>Detector</td>
</tr>
<tr>
<td>Waste accessory kit (5062-8535)</td>
<td>VWD</td>
<td>Waste</td>
</tr>
<tr>
<td>Tube PTFE 0.7 mm x 5 m, 1.6 mm od (5062-2462)</td>
<td>DAD/FLD</td>
<td>Waste</td>
</tr>
<tr>
<td>Analytical tubing kit 0.25 mm i.d. PTFE-ESD (G5664-68712)</td>
<td>Detector</td>
<td>Fraction Collector</td>
</tr>
</tbody>
</table>
Appendix

Agilent Technologies on Internet

Agilent Technologies on Internet

For the latest information on products and services visit our worldwide web site on the Internet at:

https://www.agilent.com
In This Book

This book describes the 1260 Infinity II Prime Online LC.
The manual describes the following:
• Introduction
• Configuration Settings
• Quick Start Guide
• Parts and Consumables
• Appendix