



Agilent InfinityLab LC Series

1260 Infinity III Prime LC System

System Manual



Notices

Document Information

The information in this document also applies to 1260 Infinity II and 1290 Infinity II modules.

Document No: SD-29000243 Rev. C.01
Edition: 09/2025

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Contents

In This Book 4

1 Introduction 5

Product Description of the 1260 Infinity III Prime LC System 6

Features of the 1260 Infinity III Prime LC System 7

System Components 9

2 Installation 21

Installing the System Modules 22

Optimizing the Stack Configuration 23

Integration Into the Network 31

Handling Leak and Waste 32

3 Configuration Settings 42

General Information on LAN Configuration 43

Instrument Configuration 44

Lab Advisor 45

4 Quick Start Guide 50

Best Practices 51

Prepare a Run 55

InfinityLab LC Performance Check 65

5 Parts and Consumables 66

System Supply Kits 67

HPLC System Tool Kit 68

InfinityLab Quick Connect and Quick Turn Fittings 69

Safety Caps and Solvent Bottles 74

InfinityLab Flex Bench Family 79



In This Book

This manual covers the Agilent 1260 Infinity III Prime LC System.

The instrument may only be operated by appropriately qualified and trained personnel.

1 Introduction

This chapter gives an introduction to the Agilent 1260 Infinity III Prime LC System, the underlying concepts and features.

Product Description of the 1260 Infinity III Prime LC System 6

Features of the 1260 Infinity III Prime LC System 7

System Components 9

Product Description of the 1260 Infinity III Flexible Pump (G7104C) 10

Product Description of the 1260 Infinity III Multisampler (G7167A) 11

Product Description of the 1260 Infinity III Hybrid Multisampler (G7167C) 12

Product Description of the 1260 Infinity III Vialsampler (G7129C) 13

Product Description of the 1260 Infinity III Multicolumn Thermostat (G7116A) 14

Product Description of the 1260 Infinity III Diode Array Detector HS (G7117C) 15

Product Description of the 1260 Infinity III Diode Array Detector WR (G7115A) 16

Product Description of the 1260 Infinity III Variable Wavelength Detector (G7114A) 17

Product Description of the 1260 Infinity III Fluorescence Detector (G7121A) 18

Product Description of the 1260 Infinity III Refractive Index Detector (G7162A) 19

Product Description of the InfinityLab Level Sensing (G7175A) 20

Product Description of the 1260 Infinity III Prime LC System

The 1260 Infinity III Prime LC is the most capable and comfortable LC system within the 1260 Infinity III LC portfolio. It offers the best usability and specifications for everyday analysis and MS-based routine workflows.

Low delay volume, extended pressure range up to 800 bar, superior quaternary mixing with perfectly matching columns take you one step further in your daily routine work enabling higher precision and accuracy.

Highest instrument utilization and a fast turnaround cycle are achieved through easy column handling and superior sample logistics from sample submission to data analysis.

Method transferability by Intelligent System Emulation Technology and stepwise upgrade capability enables a risk-free integration in current infrastructure matching your budget.

Designed for use with InfinityLab Assist, Level Sensing and Sample ID Reader.

Features of the 1260 Infinity III Prime LC System

- With an operating pressure of up to 800 bar, the Flexible Pump is compatible with HPLC and UHPLC, handling 2.1 , 3 , and 4.6 mm ID columns over the flow rate range up to 5 mL/min.
- Superior quaternary mixing and a delay volume of 350 μ L enable shortest run times, highest precision, and accuracy.
- Automated instrument features like switching mixer in/out, automatic purge, or BlendAssist software reduce the need for manual interaction.
- Ultralow carryover - The Multisampler is designed for low carryover, you can take clean to a whole new level with the multi-wash capability, cleaning all relevant injection parts between runs. This sophisticated, integrated feature flushes the injection needle outside with three solvents, and uses seat back flush procedures to reduce carryover to less than 9 ppm.
- Dual-needle injection - By running samples alternately through one or the other injection path, you can reduce cycle times to mere seconds, virtually eliminating conventional wait times - whether for large volume loadings or flushing procedures.
- Higher sample capacity per benchspace - Using shallow well-plate drawers, the Multisampler takes a maximum load of 16 microtiter plates and up to 6144 samples - the most of any single system.
- Feed Injection - The Hybrid Multisampler offers both standard flow-through and Feed Injection modes. The Feed Injection mediates sample-solvent effects (e.g., breakthrough, overloading, or precipitation) and allows users to inject high-organic-content samples without extra sample preparation for good peak performance.
- Advanced column capacity for up to 4 columns in a single Multicolumn Thermostat delivering best flexibility for column switching.
- Fast and easy connections with InfinityLab Quick Connect fittings to save time and trouble.
- The Diode Array Detector HS delivers lower detection limit and higher data quality for more confidence.
- Seamless integration in your chromatography data system: Agilent's Instrument Control Framework (ICF) enables smooth control of Agilent LC instrumentation through third-party chromatography data systems.

Introduction**Features of the 1260 Infinity III Prime LC System**

- Equipped with InfinityLab Assist - adds an Intuitive User Interface, Automated Workflows, Predictive Maintenance and Assisted Troubleshooting.

System Components

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

- Flexible Pump (G7104C)
- Multisampler (G7167A), Hybrid Multisampler (G7167C), or Vialsampler (G7129C)
- Multicolumn Thermostat (G7116A)
- Diode Array Detector (G7115A, G7117C), Variable Wavelength Detector (G7114A), Fluorescence Detector (G7121A), or Refractive Index Detector (G7162A)
- Evaporative Light Scattering Detector (G4260B) (optional, not stackable)
- Solvent Cabinet or InfinityLab Level Sensing (G7175A)

The Agilent 1260 Infinity III Prime LC System is described in more detail in the following sections. All modules are stackable (except the optional ELSD), see [Optimizing the Stack Configuration](#) on page 23.

For specifications, please refer to the individual module user documentation.

Product Description of the 1260 Infinity III Flexible Pump (G7104C)

The Agilent 1260 Infinity III 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.

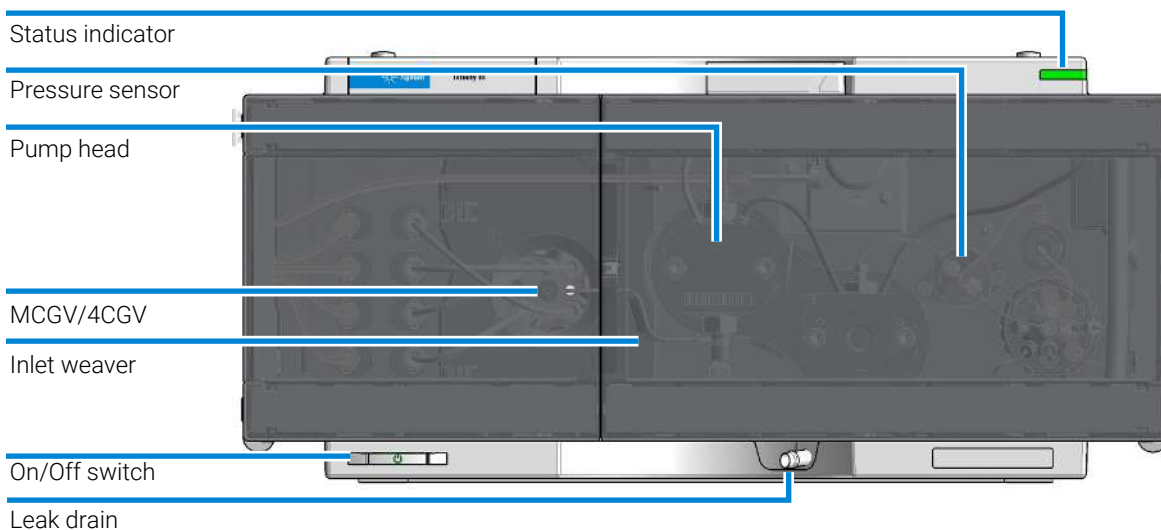


Figure 1: Overview of the Flexible Pump

Product Description of the 1260 Infinity III Multisampler (G7167A)

The Agilent 1260 Infinity III Multisampler can handle both vials and microtiter plates with ease and efficiency up to 800 bar system pressure, optimized on high flexibility.

This compact module can house up to 6144 samples, all inside the Agilent stack footprint and the robotics to inject each into the chromatograph in turn.

With the multi-wash capability, you can reduce carryover to less than 9 parts per million.

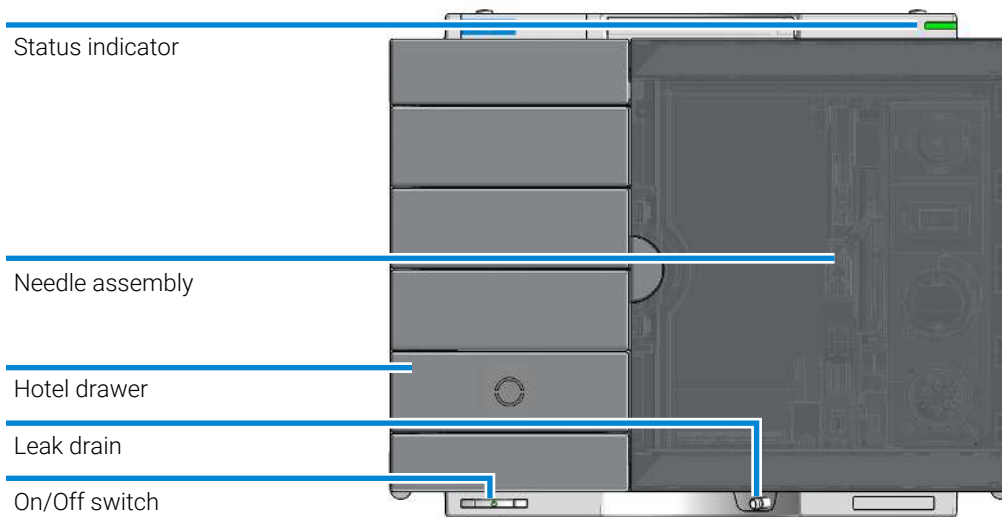


Figure 2: Overview of the Multisampler

Product Description of the 1260 Infinity III Hybrid Multisampler (G7167C)

The Agilent 1260 Infinity III Hybrid Multisampler offers both standard flow-through and Agilent Feed Injection modes. It can handle both vials and microplates with ease and efficiency up to 800 bar system pressure, being optimized for high flexibility. This compact module can house up to 6144 samples, all inside the Agilent stack footprint and with the robotics to inject each into the chromatograph in turn.

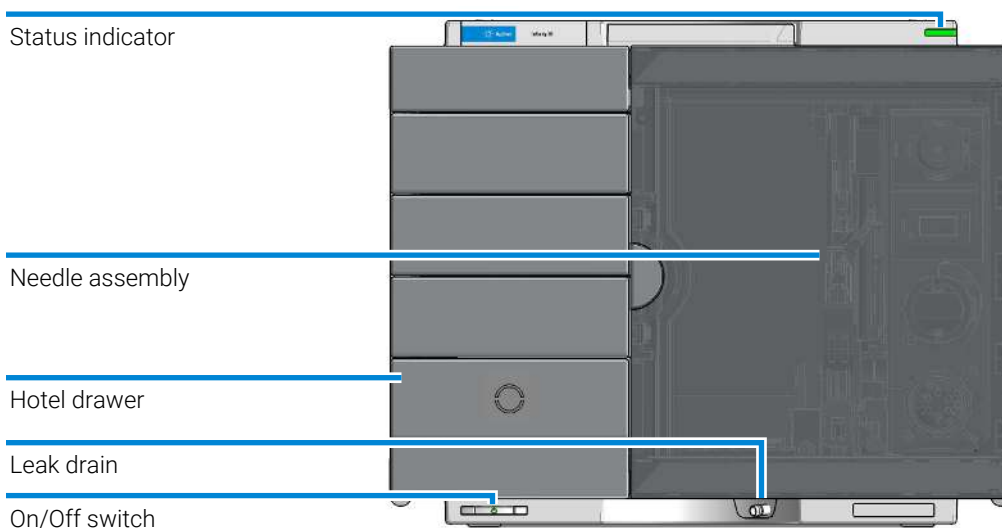


Figure 3: Overview of the Hybrid Multisampler

Product Description of the 1260 Infinity III Vialsampler (G7129C)

The Agilent 1260 Infinity III Vialsampler is an autosampler designed for the reliability and ease-of-use needed for routine pharmaceutical tasks and quality control, as well as for environmental and food analyses. It can house optionally the integrated column compartment for two LC columns with temperature control up to 80 °C as well as a sample thermostat for stable temperatures from 4 °C to 40 °C, all within one module.

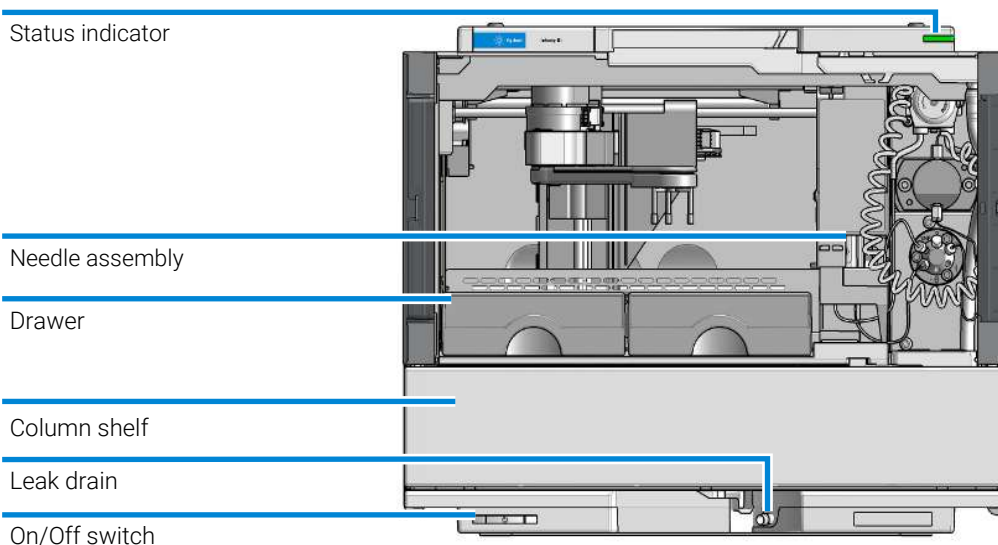


Figure 4: Overview of the Vialsampler

Product Description of the 1260 Infinity III Multicolumn Thermostat (G7116A)

The Agilent 1260 Infinity III Multicolumn Thermostat (MCT) facilitates precise column thermostating 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 III Series modules as well as with previous 1260 and 1290 Series modules.

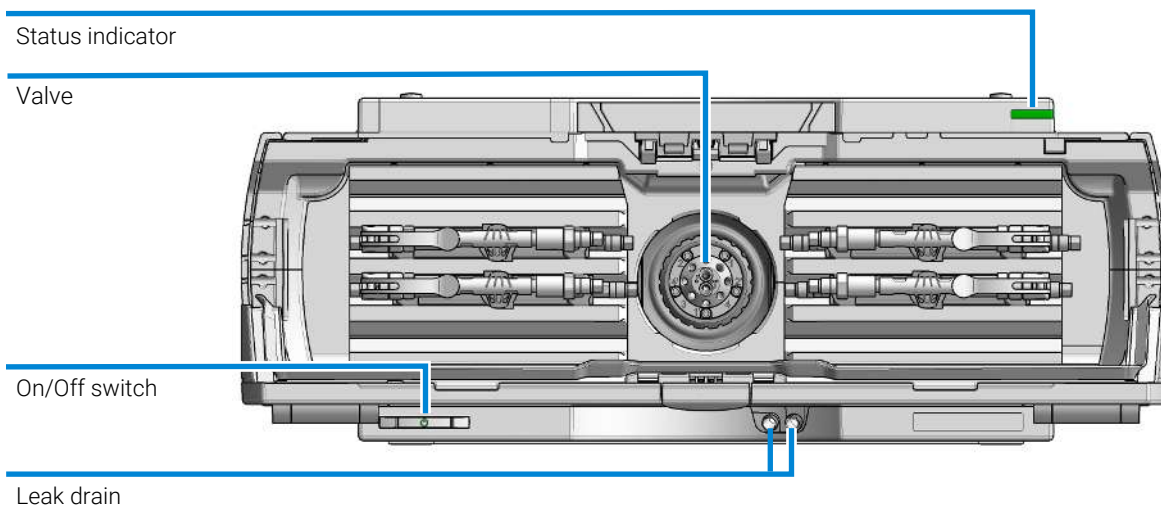


Figure 5: Overview of the Multicolumn Thermostat

Product Description of the 1260 Infinity III Diode Array Detector HS (G7117C)

The Agilent 1260 Infinity III Diode Array Detector HS (with fixed slit) is based on the Agilent Max-Light cartridge cell with optofluidic waveguides that improve light transmission to near 100% efficiency without sacrificing resolution caused by cell dispersions effects.

With typical detector noise levels of $< \pm 0.6 \mu\text{AU}/\text{cm}$ the 60 mm flow cell gives up to 10 times higher sensitivity than detectors with conventional flow cells.

Any compromising refractive index and thermal effects are almost completely eliminated, resulting in significantly less baseline drift for more reliable and precise peak integration.

For fast separations, this detector has multiple wavelength and full spectral detection at sampling rates up to 120 Hz.

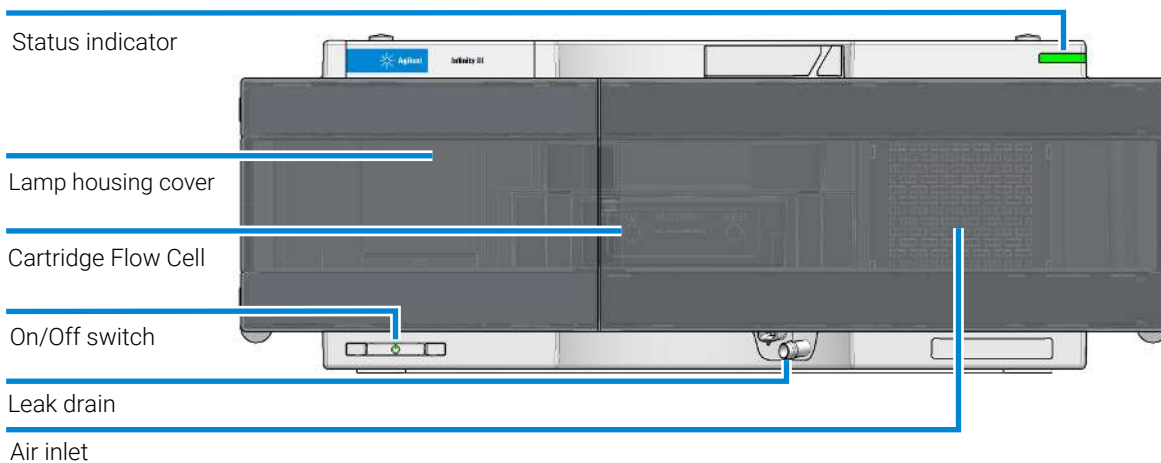


Figure 6: Overview of the G7117C Detector

Product Description of the 1260 Infinity III Diode Array Detector WR (G7115A)

The Agilent 1260 Infinity III 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.

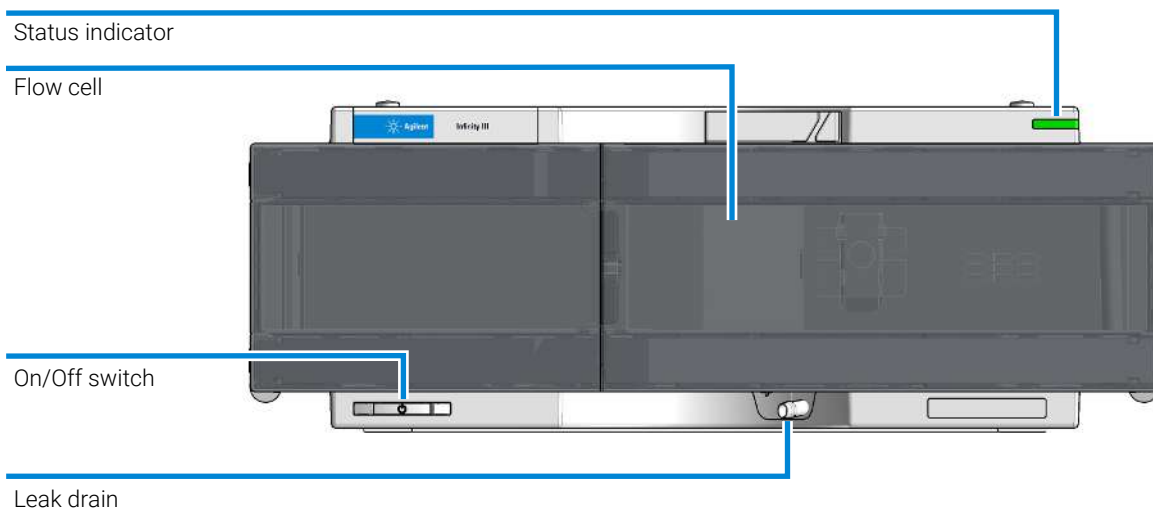


Figure 7: Overview of the G7115A Detector

Product Description of the 1260 Infinity III Variable Wavelength Detector (G7114A)

The Agilent 1260 Infinity III 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 ($< \pm 2.5 \mu\text{AU}$) and baseline drift ($< 1 \cdot 10^{-4} \text{AU/h}$) facilitates precise quantification of trace level components.

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

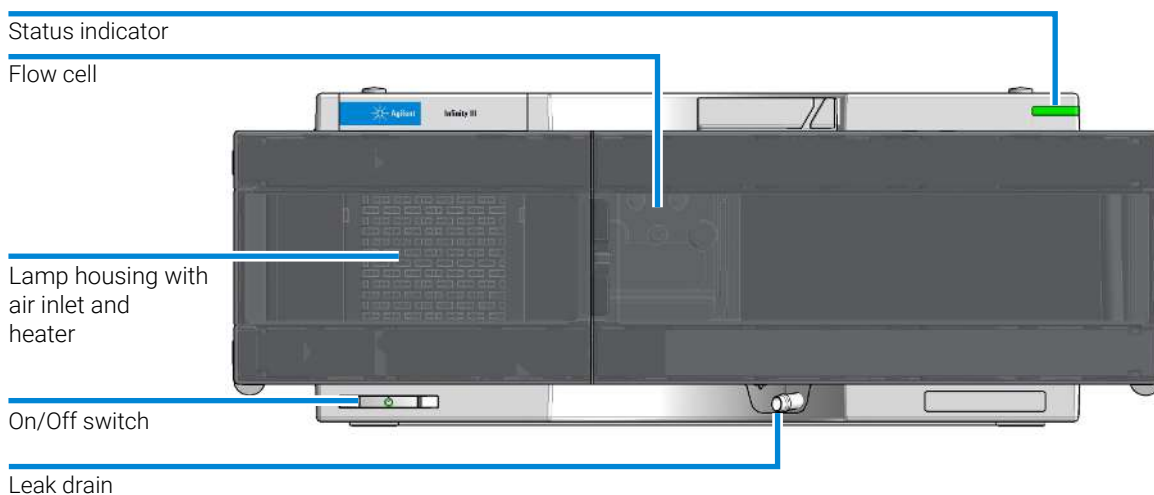


Figure 8: Overview of the G7114A Detector

Product Description of the 1260 Infinity III Fluorescence Detector (G7121A)

The proven optical and electronic design of the Agilent 1260 Infinity III 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.

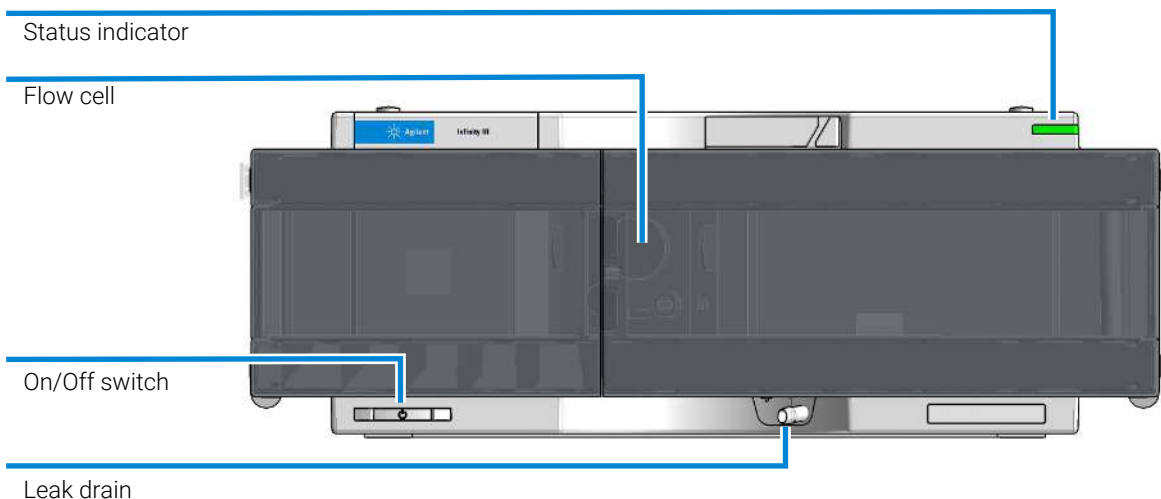


Figure 9: Overview of the G7121A Detector

Product Description of the 1260 Infinity III Refractive Index Detector (G7162A)

The Agilent 1260 Infinity III 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 RID is also the detector of choice for gel permeation chromatography (GPC) or size exclusion chromatography (SEC).

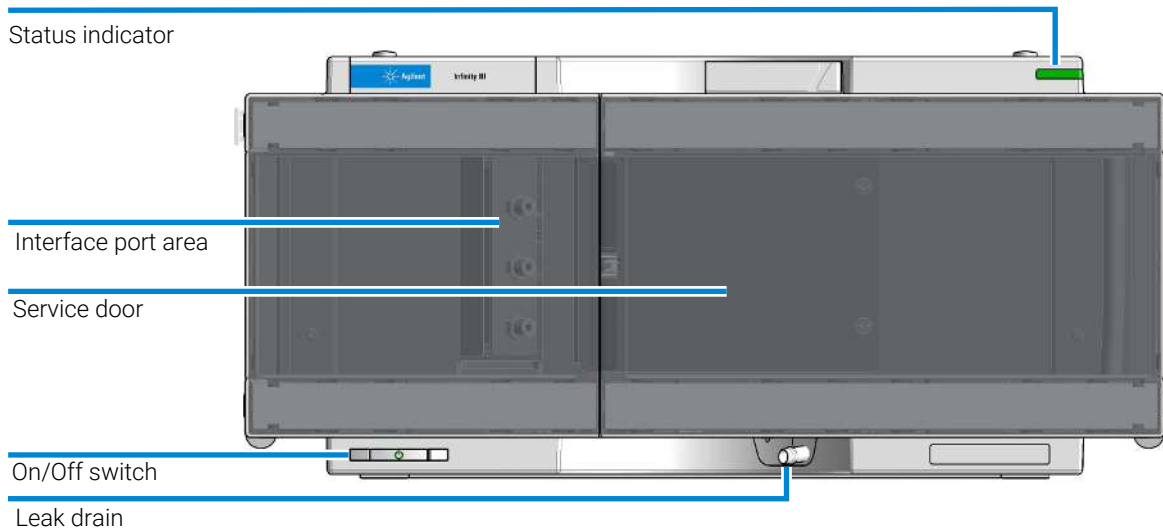


Figure 10: Overview of the G7162A Detector

Product Description of the InfinityLab Level Sensing (G7175A)

The Agilent InfinityLab Level Sensing prevents HPLC instrument or column damage, and time-consuming re-analysis because the mobile phase has run dry. This easy, straightforward system, when used together with OpenLab CDS, also offers a solvent prediction. This feature predicts your HPLC solvent consumption for a complete sequence and warns you before you start so that the injections complete successfully.

The InfinityLab Level Sensing module simplifies the process of LC system preparation and control during analysis. Accurate monitoring of solvent levels ensures optimal productivity.

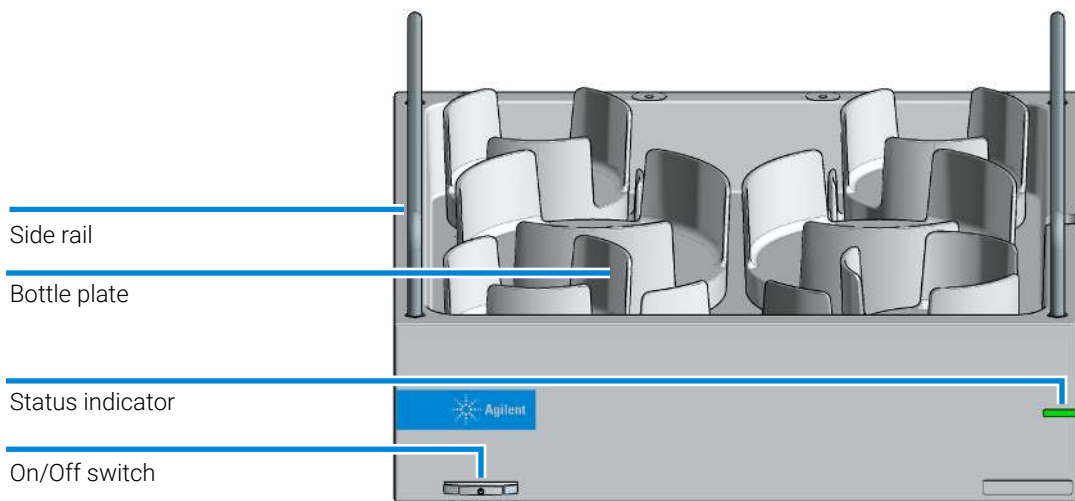


Figure 11: Overview of the Level Sensing module



2 Installation

This chapter provides information on unpacking, checking on completeness, stack considerations and installation of the module.

Installing the System Modules 22

Optimizing the Stack Configuration 23

Agilent InfinityLab Flex Bench 24

One Stack Configuration 26

Vialsampler One Stack Configuration 27

Two Stack Configuration 28

Vialsampler Two Stack Configuration 30

Integration Into the Network 31

Handling Leak and Waste 32

Drain Connectors Installation 36

Waste Concept 40

Waste Guidance 41

Leak Sensor 41

Installing the System Modules

For details of installation procedures for the modules, refer to the individual module manuals. These manuals also contain information on specifications, maintenance and parts.

Optimizing the Stack Configuration

You can ensure optimum performance by installing the system in one of the following configurations. These configurations optimize the system flow path, ensuring minimum delay volume.

The following configurations are possible:

- InfinityLab Flex Bench
- Single Stack (maximal 4 modules, in a bench rack or directly on the bench)
- InfinityLab Benchtop, providing more flexibility
- 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

Modules in a stack	InfinityLab Flex Bench Configuration	Single Stack Configuration	Two Stacks Configuration
fewer than 5	Pros <ul style="list-style-type: none"> • no bench required • mobile • optimal access to the modules, solvent bottles, pumps, columns, and accessories • integrated waste concept 	Pros <ul style="list-style-type: none"> • minimal bench space required Cons <ul style="list-style-type: none"> • high stack 	Pros <ul style="list-style-type: none"> • lower stacks • flexible combinations Cons <ul style="list-style-type: none"> • maximum bench space required
5 and more	+ possible	- not possible	+ possible

Agilent InfinityLab Flex Bench

Agilent recommends using 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

Installation

Optimizing the Stack Configuration

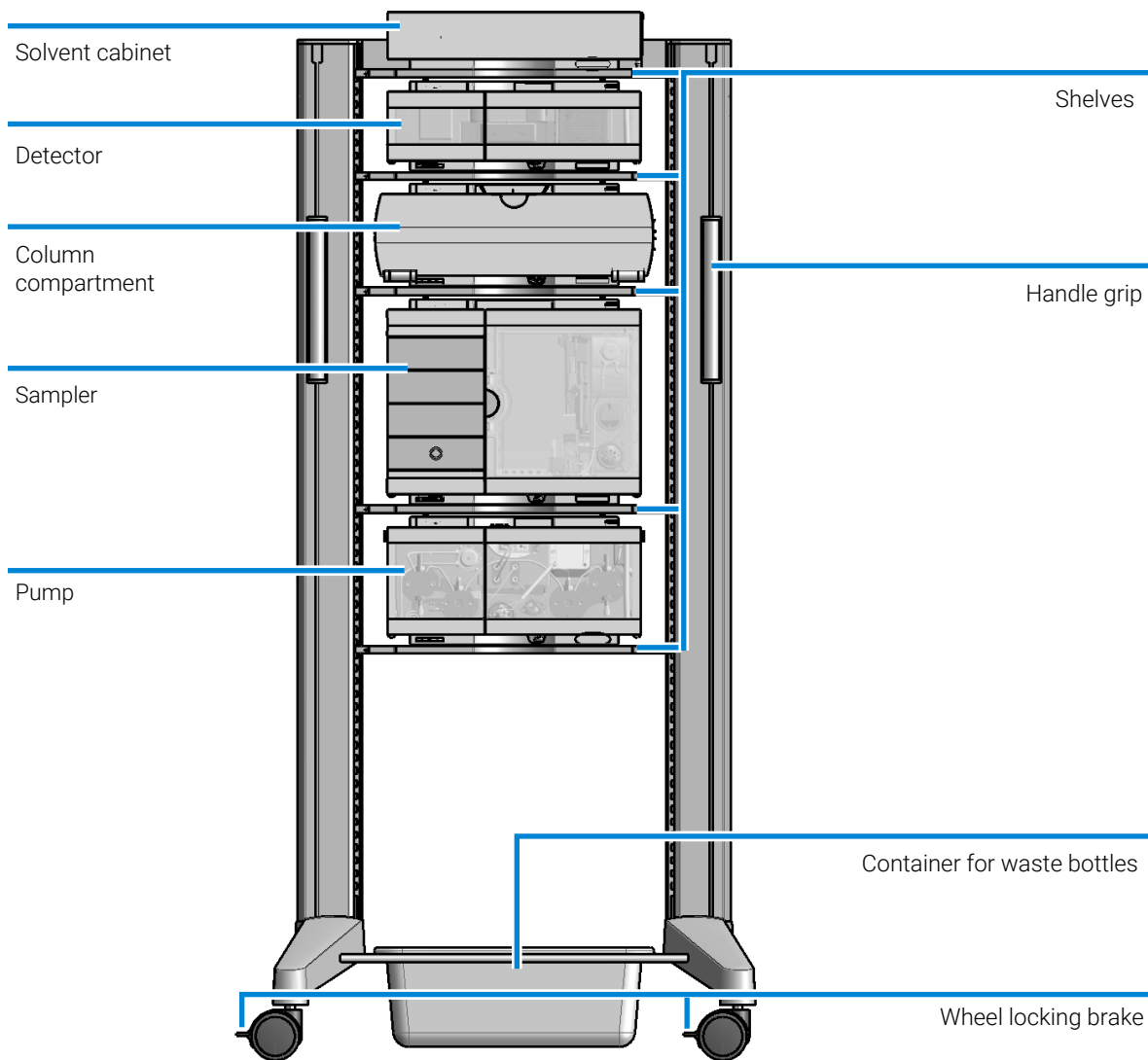


Figure 12: Agilent InfinityLab Flex Bench

One Stack Configuration

Ensure optimum performance by stacking the modules as shown exemplarily in [Figure 13](#) on page 26. This configuration optimizes the flow path for minimum delay volume and minimizes the bench space required.

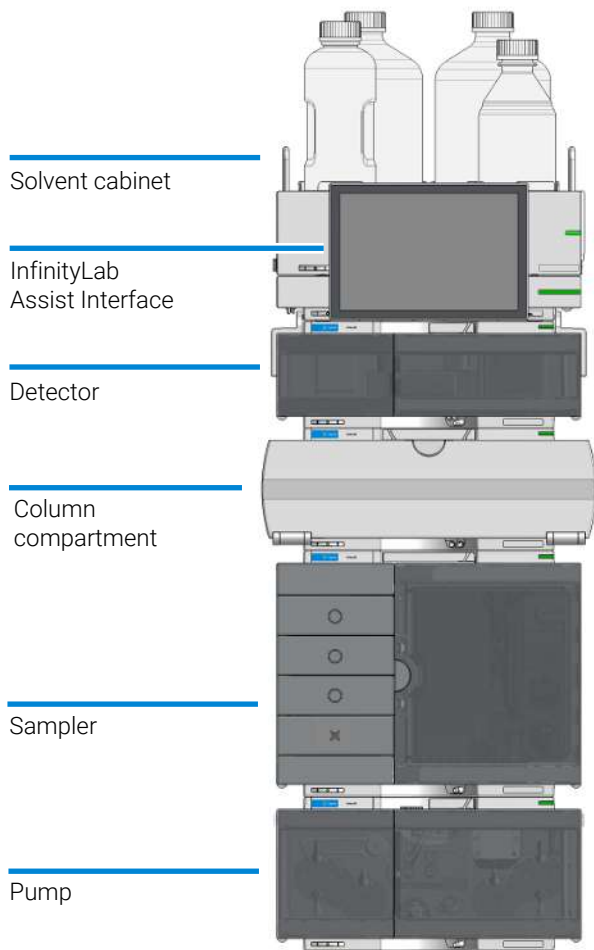


Figure 13: Single stack configuration (bench installation, example shows a Multisampler)

Vialsampler One Stack Configuration

Ensure optimum performance by stacking the modules as shown exemplarily in [Figure 14](#) on page 27 and [Figure 15](#) on page 28 for a Vialsampler set up with and without an Integrated Column Compartment (ICC), respectively. This configuration optimizes the flow path for minimum delay volume and minimizes the bench space required.

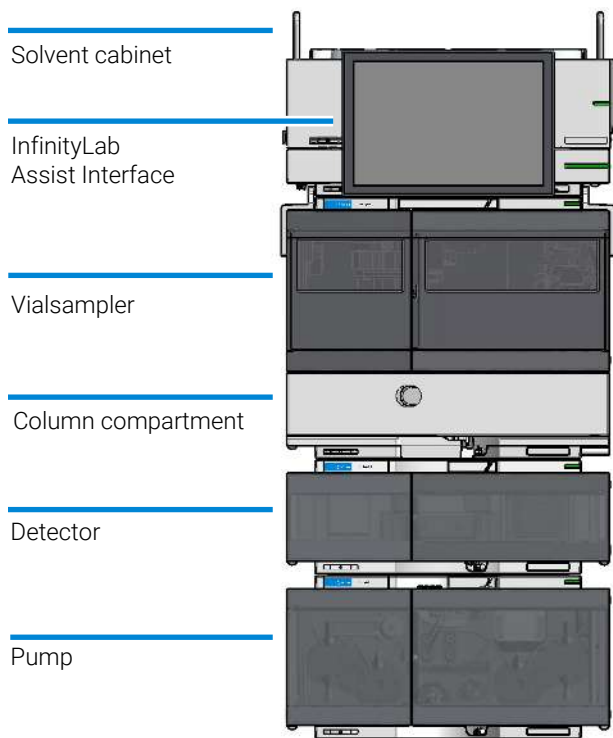


Figure 14: Single stack configuration (bench installation, example shows a vialsampler with optional ICC installed)

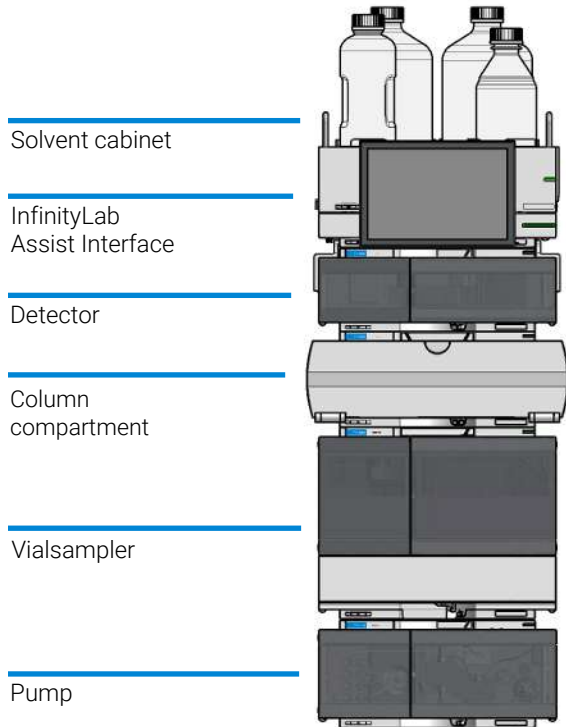


Figure 15: Single stack configuration (bench installation, example shows a Vialsampler coupled with a standalone column compartment)

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.

Installation

Optimizing the Stack Configuration

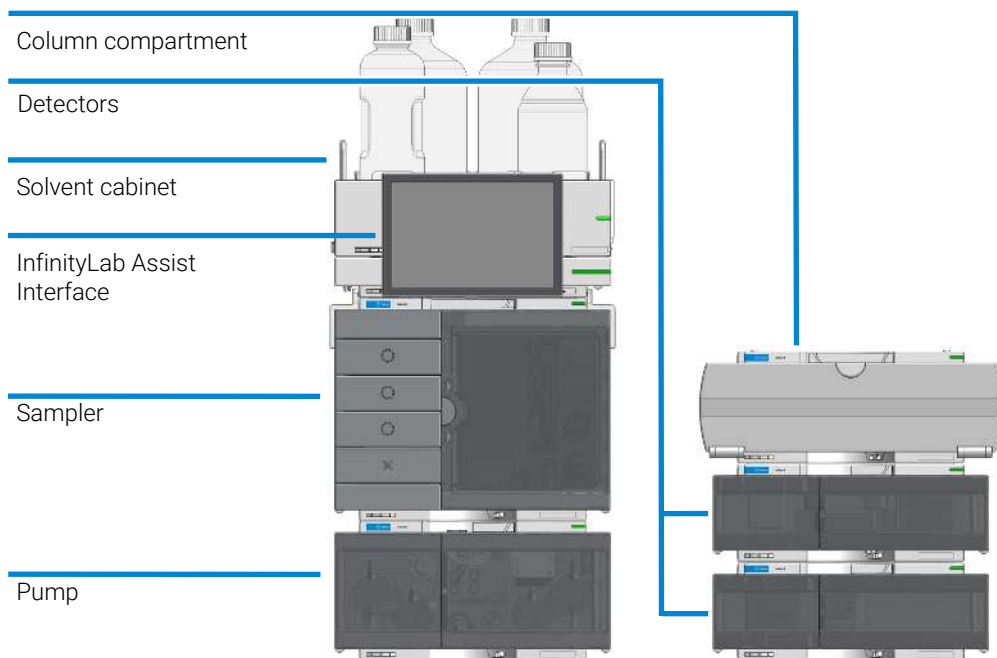


Figure 16: Two stack configuration (bench installation, example shows a Multisampler)

Vialsampler Two Stack Configuration

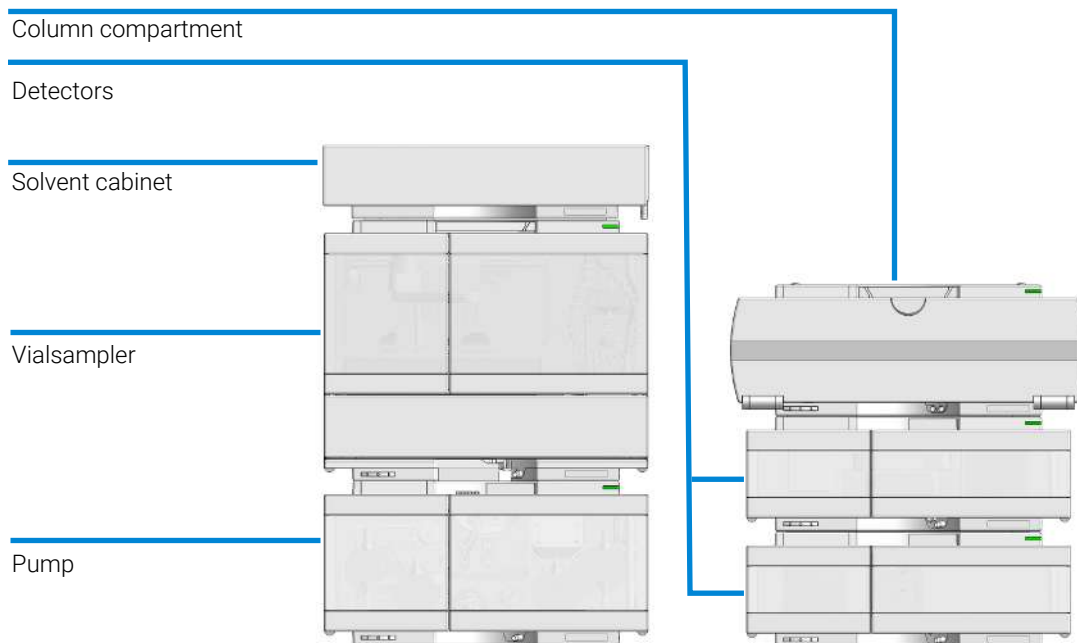


Figure 17: Two stack configuration (bench installation, example shows a Vialsampler coupled with a standalone column compartment)

Integration Into the Network

For network integration of your system refer to user manuals of your modules (chapter *LAN Configuration*).

Handling Leak and Waste

The Agilent InfinityLab LC Series 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 III 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/III 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 Multisampler needle wash port
- from the Sample Thermostat (condensate)
- from the pump's Seal Wash Sensor (if applicable)
- from the pump's Purge Valve or Multipurpose Valve

Installation

Handling Leak and Waste

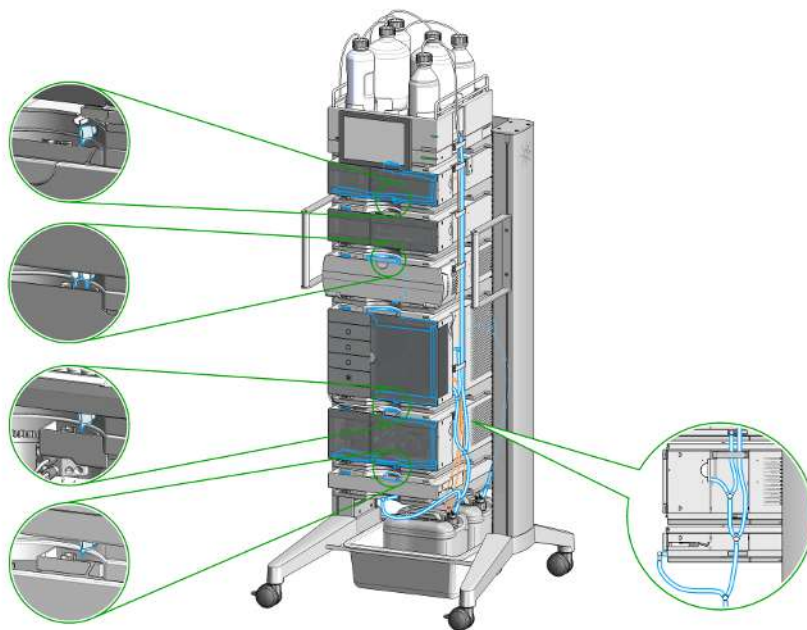


Figure 18: Infinity III Leak Waste Concept (Flex Bench installation)

Installation

Handling Leak and Waste

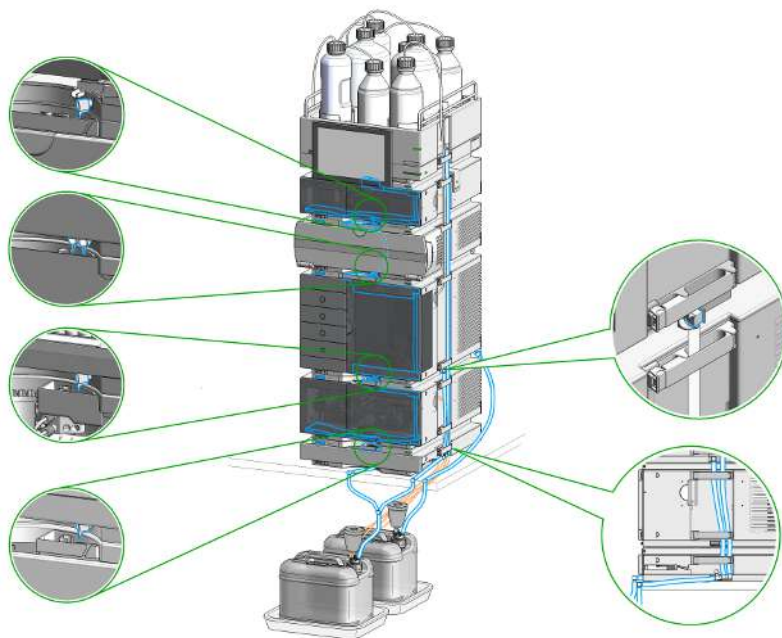


Figure 19: Infinity III Single Stack Leak Waste Concept (bench installation)

Installation

Handling Leak and Waste

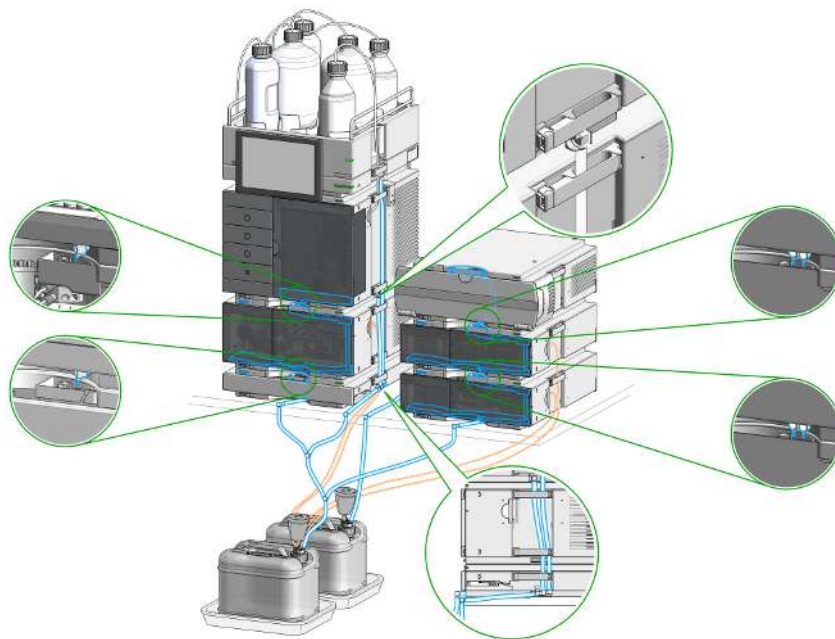


Figure 20: Infinity III Two Stack Leak Waste Concept (bench installation)

The waste tube connected to the leak plane outlet on each of the bottom instruments guides the solvent to a suitable waste container.

Drain Connectors Installation

Drain Connectors have been developed to improve leak drainage for low flow leaks of high viscosity solvents (for example, isopropanol) in Agilent InfinityLab LC Series Systems. Install these parts to modules where they are missing (usually preinstalled).

- Make sure that dripping adapters are correctly installed on each module in the LC stack, excluding lowest module.
- Remove the dripping adapter if it is appeared to be installed on the lowest module in the LC stack and connect waste tube instead.
- Consider 5004-0000 (Drain Connectors Kit) if drain adaptor is missing on some module(s).

For illustration, see [Handling Leak and Waste](#) on page 32.

Parts required

Qty.	p/n	Description
1	 5004-0000	Drain Connectors Kit

Content of Drain Connectors Kit (p/n 5004-0000)

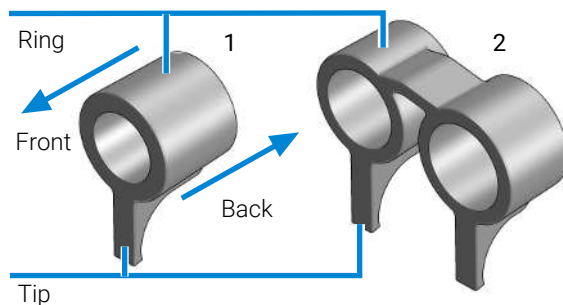


Figure 21: Overview of Drain Connectors: Single (left) and Double (right)



#	Qty.	p/n	Description
Parts can be ordered only as a complete kit.			
1	3	 5043-1834	Single Drain Connector ID3.0-Long
2	1	 5043-1836	Double Drain Connector-Long

Table 2: Compatibility of drain connectors and modules

Drain Connector Type	Compatible Module	Compatible Module Type	
Double	G7116A/B	Column Compartment	
Single	G7114A/B	Detector	
	G7115A		
	G7117A/B/C		
	G7121A/B		
	G7123B		
	G7162A/B		
	G7165A		
	G7129A/B/C		Sampler
	G7167A/B/C		
	G5668A		
	G7137A/B		
	G7157A	Degasser	
	G4767A		
	G7122A	Pump	
	G7104A/C		
	G7110B		
	G7111A/B		
	G7112B		
	G7120A		
	G7131A/C		
G7132A			
G5654A			
G4782A			

Prerequisites

- Leak drains of LC modules are clean and free of salt or solvent residuals.

NOTE

Do not install drain connectors on the bottom modules of the stack. Drain outlet of the bottom module has to be connected via waste tubing to a suitable waste container (see Leak and Waste Handling in the manual for a respective module).

NOTE

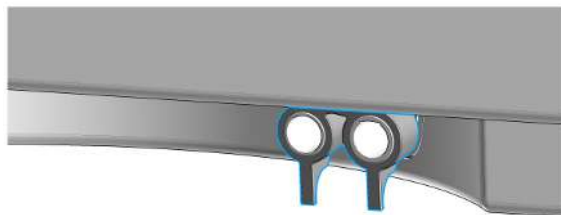
In case of incorrect installation, drain connectors cannot fully perform the intended function.

NOTE

It is not required to power off the HPLC stack to install Single and Double Drain Connectors. The installation of the connectors does not affect the analysis performed during the installation.

**Install the Double Drain Connector on the leak drain of the
1260 Infinity III Multicolumn Thermostat (G7116A)/
1290 Infinity III Multicolumn Thermostat (G7116B)**

- 1 Align the rings with the leak drain outlets of the module, press slightly with the fingers, and slide the connector along the leak drain outlets until it is aligned with the front of the leak drain.

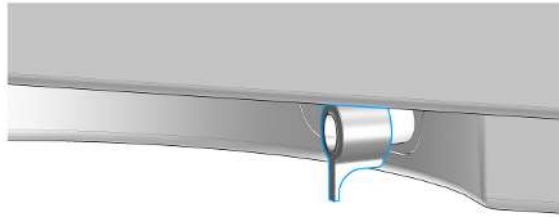


Installation

Handling Leak and Waste

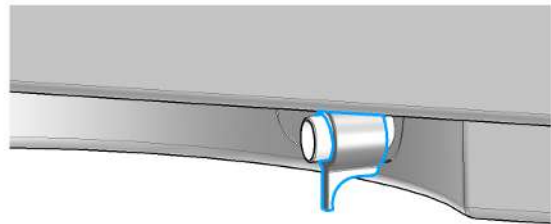
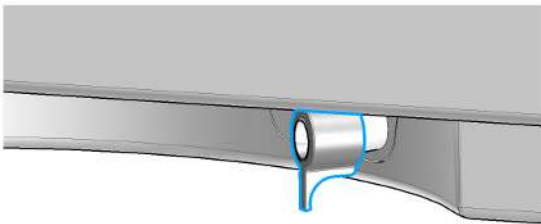
Install Single Drain Connectors on other modules in the LC stack

- 1 Align the ring with the leak drain outlet of the module, press slightly with the fingers, and slide the connector along the leak drain outlet until it is aligned with the front of the leak drain.



Make sure that the following requirements are covered:

- The tip of the drain connector points straight down.
- The leak drain outlets and the drain connectors are aligned properly.



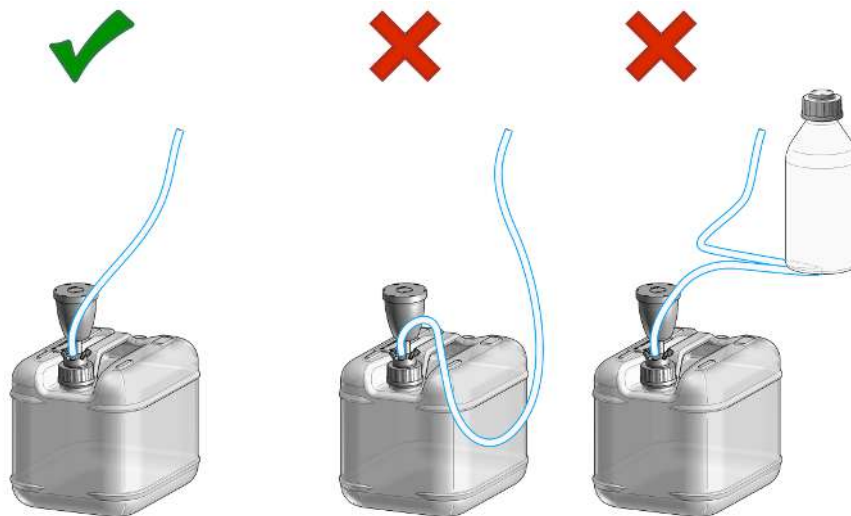
Waste Concept

Agilent recommends using 5043-1221 (6 L waste can with 1 Stay Safe cap GL45 with 4 ports) 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.

**NOTE**

To optimize detector performance the waste container and solvent bottle should be positioned above the level of the refractive index detector and solvent pump (e.g. in the solvent compartment). This will maintain a slight pressure in the sample cell.

Waste Guidance

**NOTE**

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

Leak Sensor

CAUTION**Solvent incompatibility**

The solvent DMF (dimethylformamide) leads to corrosion of the leak sensor. The material of the leak sensor, PVDF (polyvinylidene fluoride), is incompatible with DMF.

- Do not use DMF as mobile phase.
- Check the leak sensor regularly for corrosion.
- Do not place metal parts on the leak panel or the leak sensor.

NOTE

The leak sensor in the sampler is hidden under the ICC Column Heater or Column Shelf respectively.



3 Configuration Settings

This chapter describes how to configure the system.

General Information on LAN Configuration 43

Instrument Configuration 44

Lab Advisor 45

Adding a New System 45

Installing Add-ons 48

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.

Instrument Configuration

NOTE

If the system in use supports the InfinityLab Assist, follow the instructions provided.

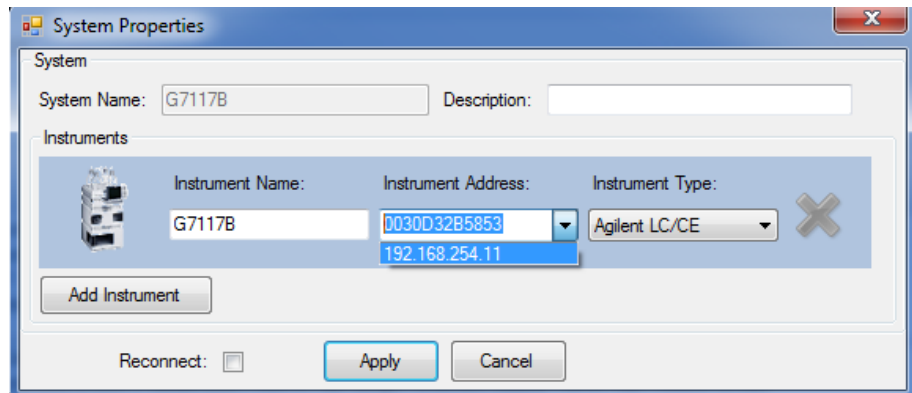
Else use LabAdvisor, or OpenLab CDS.

Example shows an instrument configuration with a Diode Array Detector in LabAdvisor.

- 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).

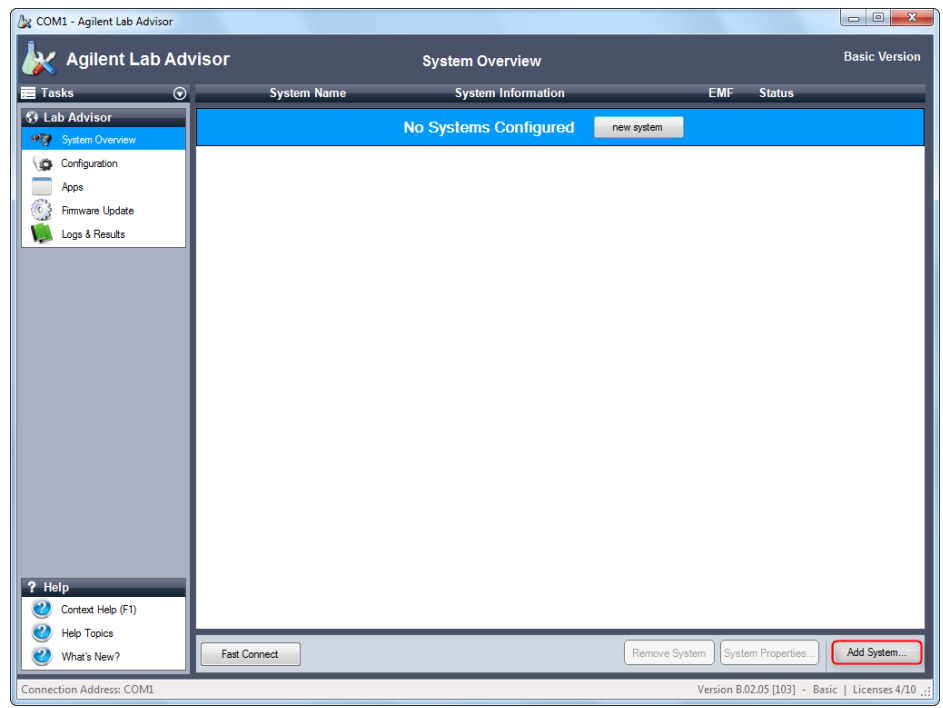


¹ MAC address can only be used in DHCP DIP-switch configuration.

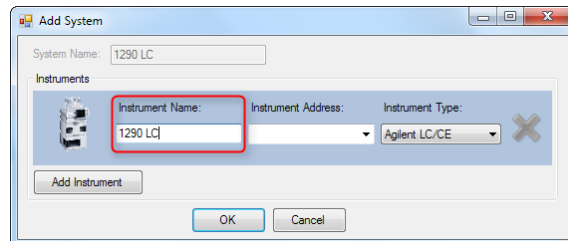
Lab Advisor

Adding a New System

- 1 In the Action Panel of the System Overview, click Add System.



The Add System dialog box is displayed.

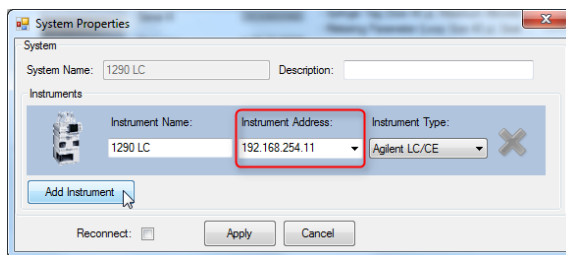


- 2 Enter a name in the **Instrument Name** field.

NOTE

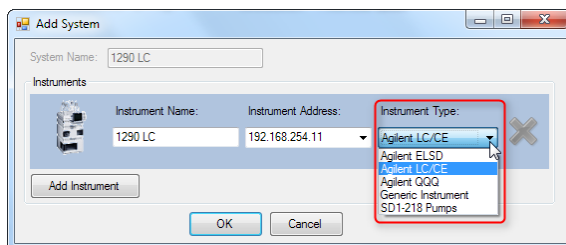
If your system comprises just one instrument, the **Instrument Name** is copied to the **System Name** field.

- 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.

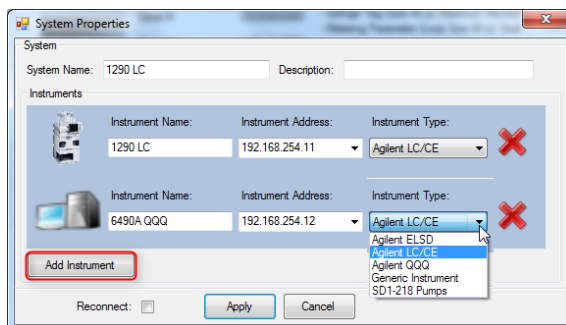
**NOTE**

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 48).

Configuration Settings

Lab Advisor

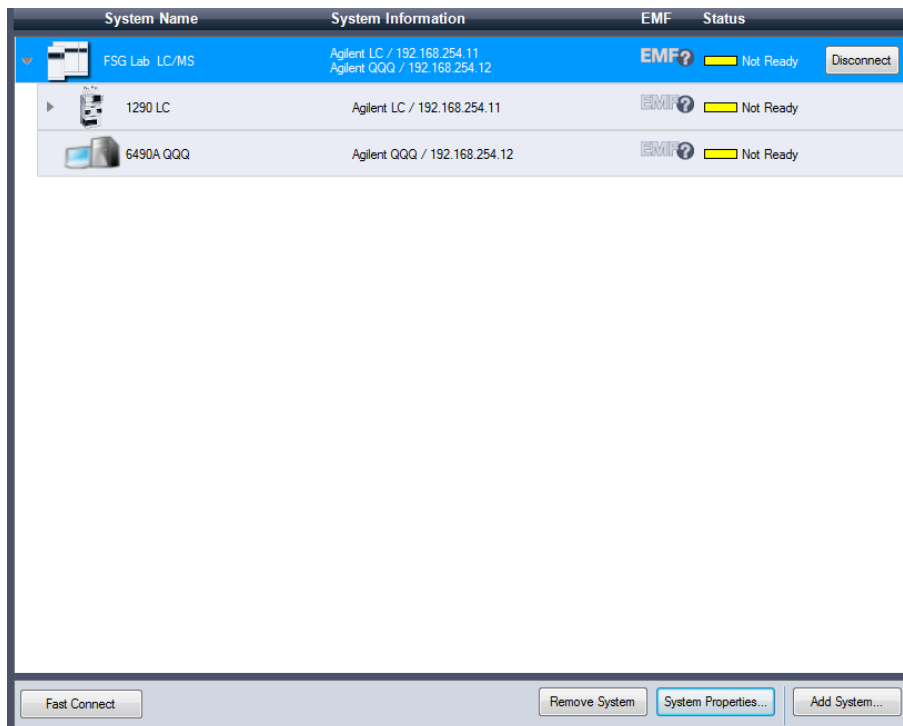
- If your system comprises more than one instrument, click **Add Instrument** and complete the details as above.



NOTE

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

- 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 with the extension .LAX.

NOTE

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

Automatically check for updates:

Name	Installed Version	Type	Status
Agilent Lab Advisor	B.02.07 [137]	Main	
Agilent LC/CE	2.4.218.0	Add-on	
Generic Instrument	1.0.11.0	Add-on	
ICoCo	1.0.0.18	Add-on	
Lab Advisor Common Apps	1.1.50.0	App	
Lab Advisor Common Services Apps	1.1.28.0	App	
Lab Advisor Diagnostic Catalog App	1.1.55.0	App	



Agilent Lab Advisor B.02.07 [137]
 Lab Advisor Core

Figure 22: Add-ons in Configuration

Configuration Settings

Lab Advisor

The **Configuration - Add-ons** screen contains a table listing all the Add-ons that are already installed.

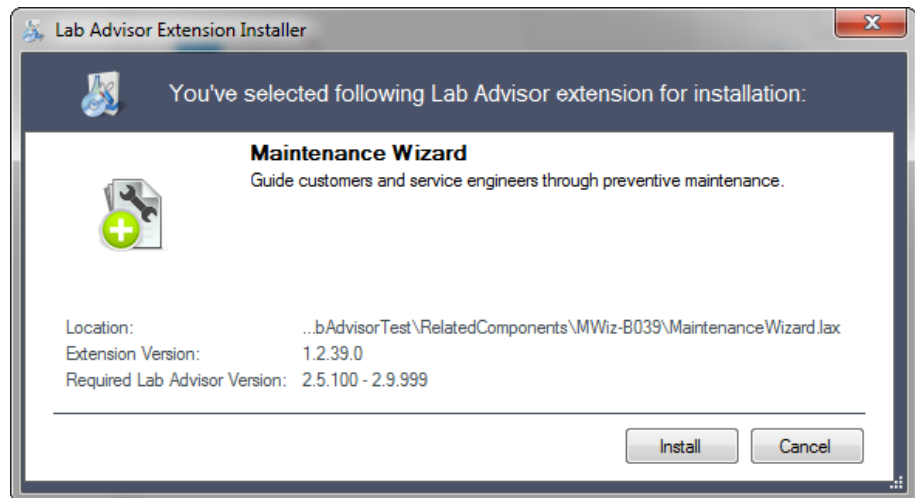
3 Click **Install from .lax file**.

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.



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



4 Quick Start Guide

This chapter provides information on running an Agilent 1260 Infinity III Prime LC System.

Best Practices 51

Daily / Weekly Tasks 51

Power Up / Shut Down the Pump 51

Prepare the Pump 52

How to Deal With Solvents 53

Select Channels for Gradient Valve (4CGV) 53

Optional Inline Filter 53

Prepare a Run 55

InfinityLab LC Performance Check 65

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.

NOTE

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

CAUTION

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 (4CGV)

- Use lower channels (A and/or D) for buffer solutions.
- Regularly flush all 4CGV 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 (5067-5407 (Inline filter assembly, material: stainless steel)) 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.

CAUTION**Damage to the valve**

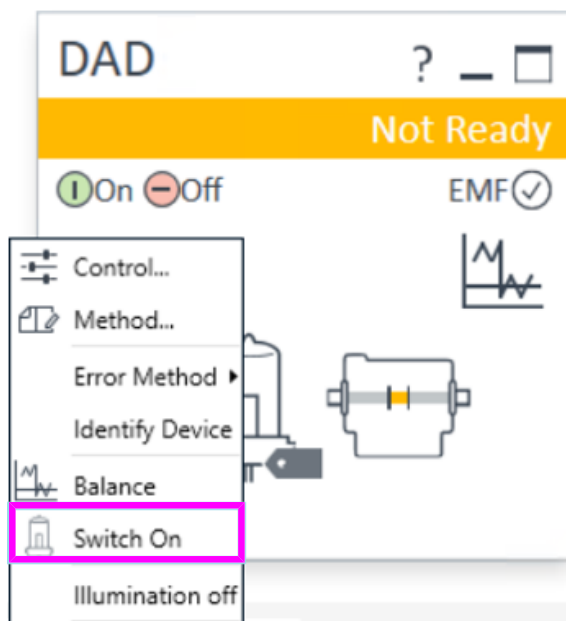
- Use the filter flush mode only if the optional inline filter is installed.

See *1290 Infinity II Inline Filters Technical Note (G7167-Inline-Filters-TechPu-en-SD-29000397.pdf, SD-29000397)* for further reference.

Prepare a Run

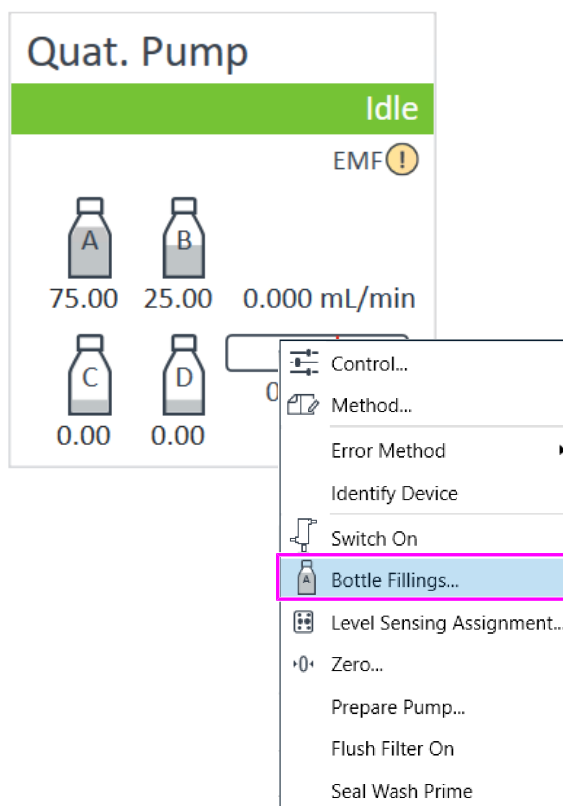
This procedure exemplarily shows how to prepare a run. Parameters as shown in the screenshots may vary, depending on the system installed.

- 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 Solvent bottle filling dialog (in the software).



Solvent Bottle					
Fillings					
	Actual Volume		Total Volume		
A:	<input type="text" value="0.80"/>	liter	<input type="text" value="1.00"/>	liter	
B:	<input type="text" value="0.92"/>	liter	<input type="text" value="1.00"/>	liter	
C:	<input type="text" value="0.78"/>	liter	<input type="text" value="1.00"/>	liter	
D:	<input type="text" value="0.81"/>	liter	<input type="text" value="1.00"/>	liter	

Actions		
<input checked="" type="checkbox"/>	Prevent analysis if level falls below	<input type="text" value="0.05"/> liter
<input type="checkbox"/>	Turn pump off if running out of solvent	

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 Technical Note (InfinityLab-BestPractice-en-SD-29000194.pdf, SD-29000194)*.

7 Change solvent (if necessary).

Quat. Pump VWD Sampler DAD Column Comp.

Quat. Pump (G7111B) 

Flow

0.800 mL/min

Solvents

A: 60.0 % Water

B: 40.0 % Acetonitrile

C: 0.0 %

D: 0.0 %

Pressure Limits

Min: 0.00 bar Max: 600.00 bar

Stoptime **Posttime**

As Injector/No Limit Off

10.00 min 1.00 min

Import Timetable...

Advanced

Minimum Stroke

Automatic

20 µL

Compressibility

95 *10⁻⁶/bar

No compensation

Maximum Flow Gradient

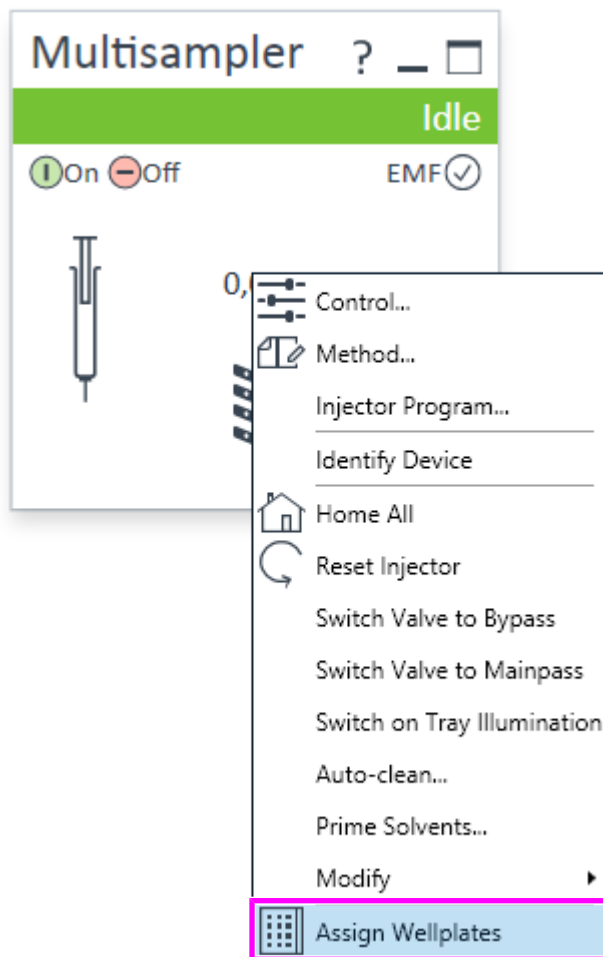
100.000 mL/min²

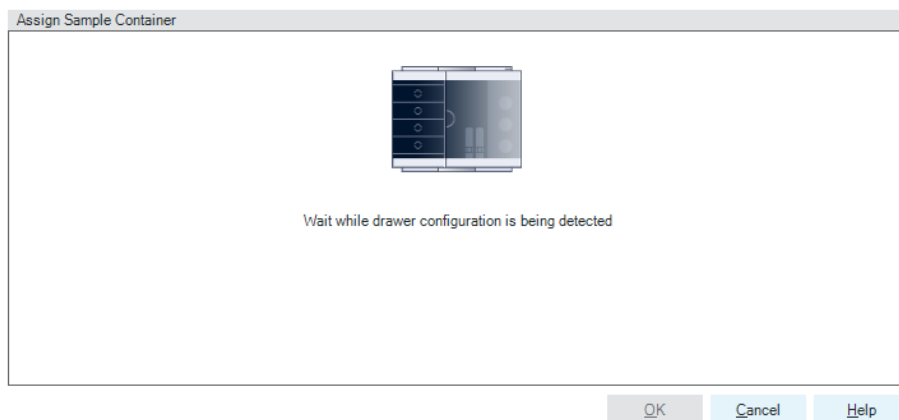
Primary Channel

Automatic

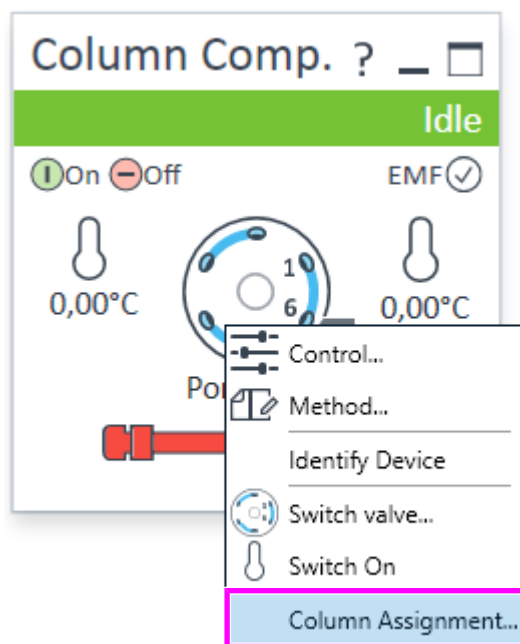
Timetable (1/100 events)

- 8 Choose the tray format of the sampler.





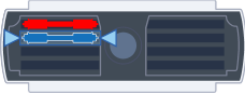
- 9 Add a new column.



Quick Start Guide

Prepare a Run

10 Enter the column information.

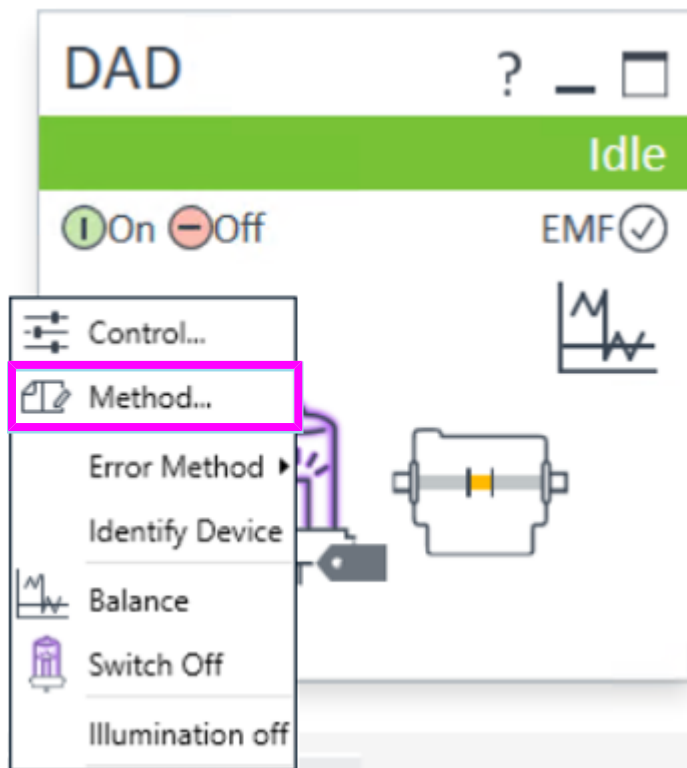
Plumbing		Visualization						
Valve Position	Location							
1	Left 1							
2	Left 2							

Valve Type: 2-pos/6-port valve 600 bar (5067-4137)

Column Tag Information							
Location	Color Code	Description	Length [mm]	Diameter [mm]	Particle Size [µm]	Max. Pressure [bar]	Injections
Left 1	Red		0	0,0	0,0	0	0
▶ Left 2	Blue		0	0,0	0,0	0	0
Left 3	None		0	0,0	0,0	0	0
Left 4	None		0	0,0	0,0	0	0
Right 1	None		0	0,0	0,0	0	0
Right 2	None		0	0,0	0,0	0	0
Right 3	None		0	0,0	0,0	0	0
Right 4	None		0	0,0	0,0	0	0

>>


12 Set the detector according to the needs of your method.



Quick Start Guide

Prepare a Run

Quat. Pump | VWD | Sampler | DAD | Column Comp.

DAD (G7115A) 

Signals

Acquire	Wave length	Band width	Reference Wavelength	Reference Bandwidth	
<input checked="" type="checkbox"/>	254	4	<input checked="" type="checkbox"/>	360	100 nm
<input type="checkbox"/>	254	4	<input type="checkbox"/>	360	100 nm
<input type="checkbox"/>	210	4	<input type="checkbox"/>	360	100 nm
<input type="checkbox"/>	230	4	<input type="checkbox"/>	360	100 nm
<input type="checkbox"/>	280	4	<input type="checkbox"/>	360	100 nm
<input type="checkbox"/>	260	4	<input type="checkbox"/>	360	100 nm
<input type="checkbox"/>	270	4	<input type="checkbox"/>	360	100 nm
<input type="checkbox"/>	290	4	<input type="checkbox"/>	360	100 nm

Peakwidth

> 0.0063 min (0.13 s response time) (40 Hz)

Stoptime

As Pump/Injector
 1.00 min

Posttime

Off
 1.00 min

Advanced

Spectrum

Store:

Range from: to nm

Step: nm

Analog Output

Zero Offset: %

Attenuation: mAU

Margin for negative Absorbance

mAU

Slit

nm

Autobalance

Prerun
 Postrun

Lamps on required for acquisition

UV Lamp
 Vis Lamp

▶ Timetable (empty)

InfinityLab LC Performance Check

The InfinityLab LC Performance Check is run after the complete installation of the module stack to affirm the functionality of all modules and the system. The InfinityLab LC Performance Check confirms that each module performs and is connected correctly.

For more information, refer to Agilent CrossLab Start Up Installation, or Introduction.



5 Parts and Consumables

This chapter provides information on additional parts and consumables.

System Supply Kits 67

HPLC System Tool Kit 68

InfinityLab Quick Connect and Quick Turn Fittings 69

InfinityLab Quick Connect Fittings 69

InfinityLab Quick Connect Fitting Replacement Capillaries 71

InfinityLab Quick Turn Fitting 72

Capillaries for Use with the InfinityLab Quick Turn Fitting 73

Safety Caps and Solvent Bottles 74

Stay Safe Caps 74

Solvent Bottles 77



Additional Parts 78

InfinityLab Flex Bench Family 79

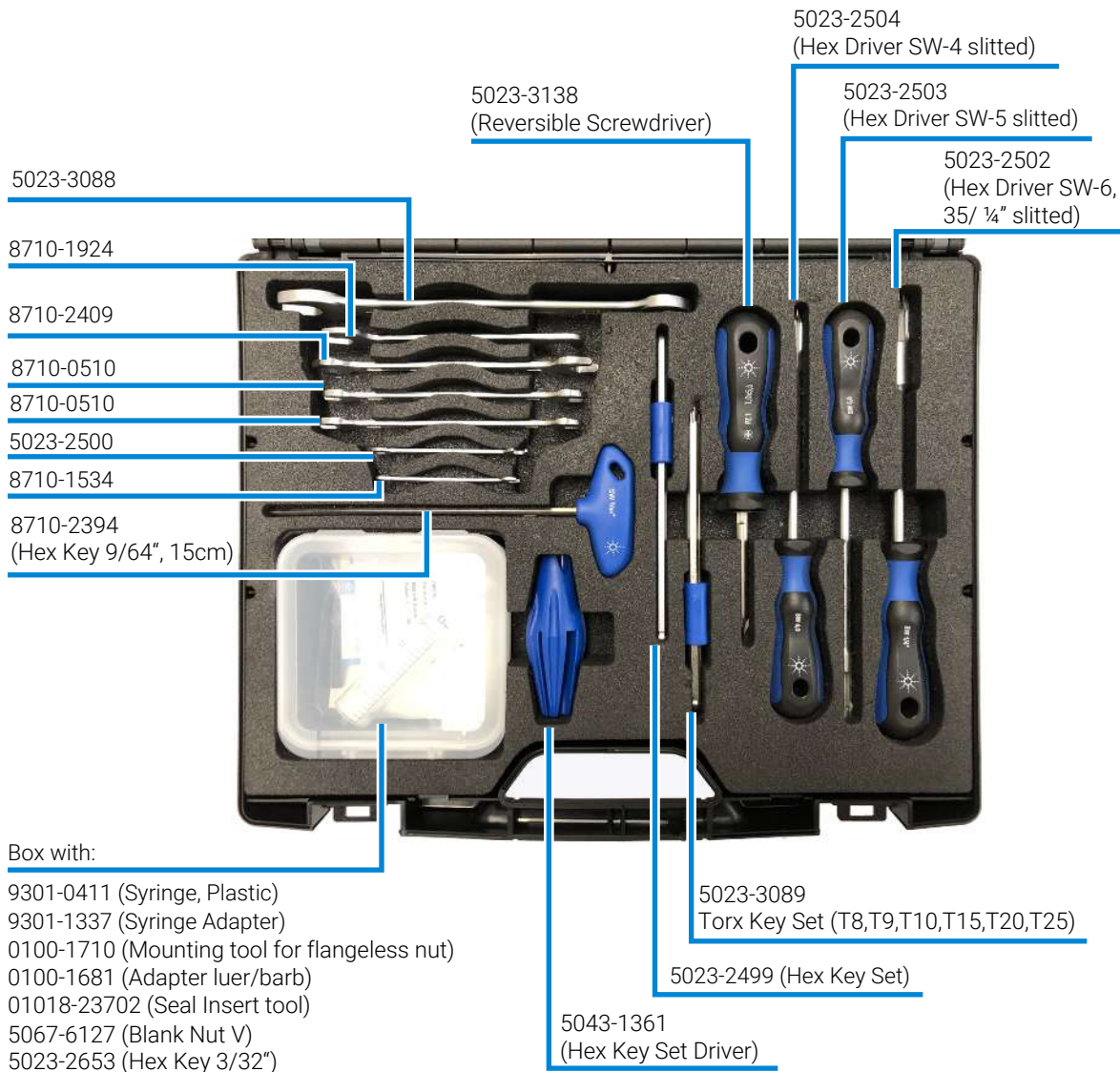
InfinityLab Flex Bench 79

InfinityLab Benchtop 80

System Supply Kits

p/n	Description
 5067-6617	<p>InfinityLab convenience kit, for 1260</p> <p>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 5067-6614 InfinityLab capillary kit, 0.17 mm, for 1260</p>
p/n	Description
 5067-6614	<p>InfinityLab capillary kit, 0.17 mm, for 1260</p> <p>includes: complete set of system capillaries, Quick Connect and Quick Turn fittings, PEEK finger-tight fittings, stainless steel restriction capillary, and blank nut</p>

HPLC System Tool Kit



InfinityLab Quick Connect and Quick Turn Fittings

InfinityLab Quick Connect Fittings

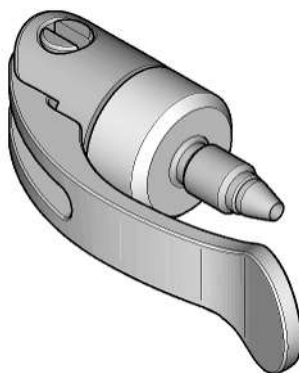
















Figure 23: InfinityLab Quick Connect Fitting














p/n	Description
 5067-5965	InfinityLab Quick Connect LC fitting (fitting without preinstalled capillary)
 5043-0924	Front Ferrule for Quick Connect/Turn Fitting
 5067-5961	InfinityLab Quick Connect Assy ST 0.075 mm x 105 mm
 5067-6163	InfinityLab Quick Connect Assy ST 0.075 mm x 150 mm
 5067-6164	InfinityLab Quick Connect Assy ST 0.075 mm x 220 mm
 5067-6165	InfinityLab Quick Connect Assy ST 0.075 mm x 280 mm
 5067-5957	InfinityLab Quick Connect Assy ST 0.12 mm x 105 mm
 5067-5958	InfinityLab Quick Connect Assy ST 0.12 mm x 150 mm
 5067-5959	InfinityLab Quick Connect Assy ST 0.12 mm x 220 mm
 5067-5960	InfinityLab Quick Connect Assy ST 0.12 mm x 280 mm
 5067-6166	InfinityLab Quick Connect Assy ST 0.17 mm x 105 mm
 5067-6167	InfinityLab Quick Connect Assy ST 0.17 mm x 150 mm

Parts and Consumables

InfinityLab Quick Connect and Quick Turn Fittings

p/n	Description
 5067-6168	InfinityLab Quick Connect Assy ST 0.17 mm x 220 mm
 5067-6169	InfinityLab Quick Connect Assy ST 0.17 mm x 280 mm

InfinityLab Quick Connect Fitting Replacement Capillaries

p/n	Description
 5500-1174	InfinityLab Capillary ST 0.075 mm x 105 mm
 5500-1175	InfinityLab Capillary ST 0.075 mm x 150 mm
 5500-1176	InfinityLab Capillary ST 0.075 mm x 220 mm
 5500-1177	InfinityLab Capillary ST 0.075 mm x 250 mm
 5500-1178	InfinityLab Capillary ST 0.075 mm x 280 mm
 5500-1173	InfinityLab Capillary ST 0.12 mm x 105 mm
 5500-1172	InfinityLab Capillary ST 0.12 mm x 150 mm
 5500-1171	InfinityLab Capillary ST 0.12 mm x 220 mm
 5500-1170	InfinityLab Capillary ST 0.12 mm x 280 mm
 5500-1179	InfinityLab Capillary ST 0.12 mm x 400 mm
 5500-1180	InfinityLab Capillary ST 0.12 mm x 500 mm
 5500-1181	InfinityLab Capillary ST 0.17 mm x 105 mm
 5500-1182	InfinityLab Capillary ST 0.17 mm x 150 mm
 5500-1183	InfinityLab Capillary ST 0.17 mm x 220 mm
 5500-1230	InfinityLab Capillary ST 0.17 mm x 280 mm
 5500-1231	InfinityLab Capillary ST 0.17 mm x 500 mm
 5500-1259	InfinityLab Capillary ST 0.25 mm x 150 mm
 5500-1260	InfinityLab Capillary ST 0.25 mm x 400 mm

InfinityLab Quick Turn Fitting

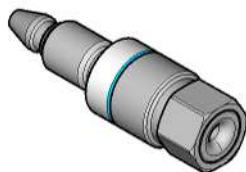




Figure 24: InfinityLab Quick Turn Fitting

p/n	Description
 5067-5966	InfinityLab Quick Turn Fitting
 5043-0924	Front Ferrule for Quick Connect/Turn Fitting

Capillaries for Use with the InfinityLab Quick Turn Fitting

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

Safety Caps and Solvent Bottles

Stay Safe Caps

Table 3: Stay Safe Caps

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

Parts and Consumables

Safety Caps and Solvent Bottles

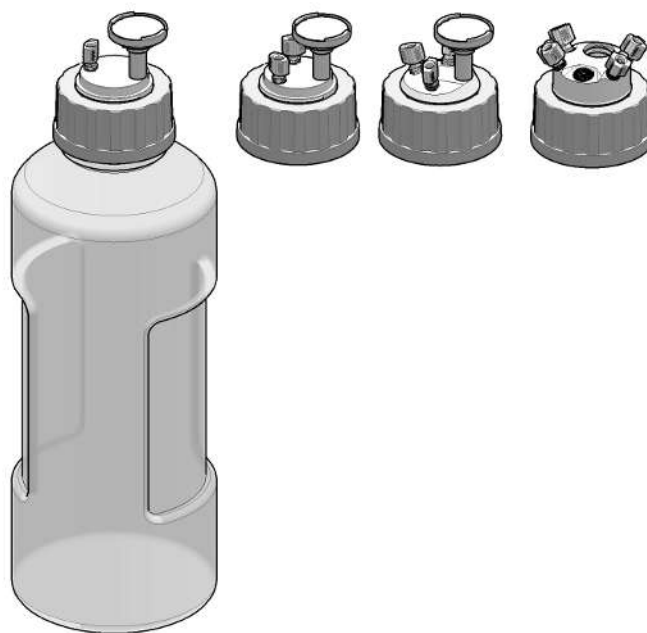


Figure 25: Solvent bottle with different types of Stay Safe caps

Kits


p/n	Description
 5043-1221	6 L waste can with 1 Stay Safe cap GL45 with 4 ports



Figure 26: Kit: Waste can with Stay Safe cap

Solvent Bottles

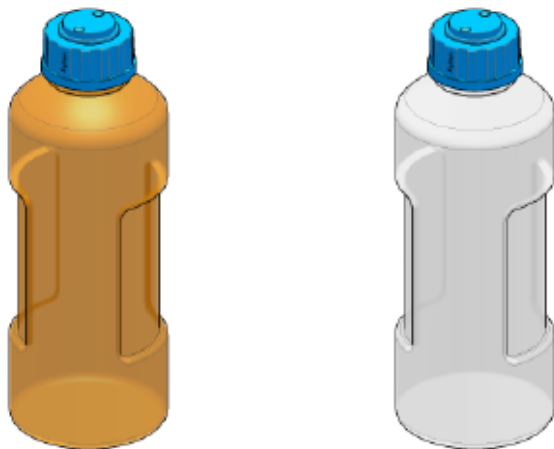














Figure 27: Solvent bottles


p/n	Description
 9301-6523	Solvent bottle, clear, 500 mL with cap
 9301-6524	Solvent bottle, clear, 1000 mL
 9301-6525	Solvent bottle, amber, 500 mL with cap
 9301-6526	Solvent bottle, amber, 1000 mL
 9301-6527	Solvent bottle, clear, 125 mL
 9301-6528	Solvent bottle, clear, 1000 mL with cap
 9301-6529	Identification silicone ring (8/pk with 4 different colors)
 9301-6530	Sticker for solvent bottles (100/pk)

Additional Parts

For fitting ports:

p/n	Description
 5043-1216	Fitting for 3.2 mm tubing, PFA, 2/pk
 5043-1215	Fitting for 2.3 mm tubing, PFA, 2/pk
 5043-1214	Fitting for 1.6 mm tubing, PFA, 2/pk
 5043-1198	Screw plug 1/8 in, PTFE, 2/pk


For vent port:

p/n	Description
 5043-1190	Venting valve with time strip, PTFE, 1 µm



For filter port:

p/n	Description
 5043-1193	Charcoal filter with time strip (58 g) for waste container

For waste port:



p/n	Description
 5043-1207	2-ports waste collector, PTFE

Miscellaneous:

p/n	Description
 5043-1191	Thread adapter PTFE GL45 (M) - GL40 (F)
 5043-1192	Thread adapter PTFE GL45 (M) - GPI 38-430 (F)






InfinityLab Flex Bench Family

InfinityLab Flex Bench



p/n	Description
 5043-1252	InfinityLab Flex Bench
 5043-1759	InfinityLab Flex Bench with pre-assembled power strip

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

Accessories:





p/n	Description
 5043-1287	Shelf assembly
 8121-1245	Valve shelf assembly
 5043-1278	Waste bin
 8121-2258	Power cord
 5043-1289	InfinityLab Flex Bench Replacement Kit (spare parts: screws and casters)

InfinityLab Benchtop

p/n	Description
 5043-1711	InfinityLab Benchtop
 5043-1740	InfinityLab Benchtop with pre-assembled power strip

The Benchtop includes the framework and three shelf assemblies.

Accessories:

p/n	Description
 5043-1750	Shelf assembly
 8121-1245	Valve shelf assembly
 8121-2258	Power cord
 5043-1289	InfinityLab Flex Bench Replacement Kit (spare parts: screws and casters)

In This Book

This manual contains technical reference information about the Agilent 1260 Infinity III Prime LC System.

The manual describes the following:

- introduction,
- install the modules,
- configuration settings,
- quick start guide,
- parts and consumables.

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Edition: 09/2025

Document No: SD-29000243 Rev. C.01

