

Agilent CrossLab Start Up Services

Agilent InfinityLab LC Series Site Preparation Checklist

Thank you for purchasing an instrument from **Agilent Technologies**. CrossLab Start Up is focused on helping customers shorten the time it takes to start realizing the full value of their instrument investment.

Correct site preparation is the key first step in ensuring that your instruments and software systems operate reliably over an extended lifetime. This document is an **information guide and checklist** prepared for you that outlines the supplies, space, and utility requirements for the system set up in your lab.

Introduction

Customer Information

- If you have questions or problems in providing anything described as part of Customer Responsibilities below, please contact your local Agilent or partner support / service organization for assistance prior to delivery. In addition, Agilent and/or its partners reserve the right to reschedule the installation dependent upon the readiness of your laboratory.
- Should your site not be ready for whatever reasons, please contact Agilent as soon as possible to re-schedule any services that have been purchased.
- Other optional services such as additional training, operational qualification (OQ) and consultation for user-specific applications may also be provided at the time of installation when ordered with the system but should be contracted separately.
- Please refer to the other peripheral products (ie, samplers etc.) for site preparation requirements.

Customer Responsibilities

Ensure that your site meets the following specifications before the installation date. For details, see specific sections within this checklist, including:

- The necessary laboratory or bench space is available.
- The required **environmental conditions for the lab** as well as laboratory gases, tubing.
- The **power requirements** related to the product (e.g. **number & location** of electrical outlets).
- The **required operating supplies** necessary for the product and installation.
- While Agilent is delivering **Installation and Introduction** services, users of the instrument should be present throughout these services; otherwise, they will miss important operational, maintenance and safety information.
- Please consult the **Special Requirements and Other Considerations** section below for other product-specific information.
- HPLC grade (or better) solvents needed for installation (acetonitrile, isopropanol, and water).

Important Customer Web Links

- To access Agilent training and education, visit <https://www.agilent.com/chem/training> to learn about training options, which include online, classroom and onsite delivery. A training specialist can work directly with you to help determine your best options.
- To access the **Agilent Resource Center** web page, visit <https://www.agilent.com/en-us/agilentresources>. The following information topics are available:
 - Sample Prep and Containment
 - Chemical Standards
 - Analysis
 - Service and Support
 - Application Workflows
- The **Agilent Community** is an excellent place to get answers, collaborate with others about applications and Agilent products, and find in-depth documents and videos relevant to Agilent technologies. Visit <https://community.agilent.com/welcome>
- Videos about specific preparation requirements for your instrument can be found by searching the **Agilent YouTube** channel at <https://www.youtube.com/user/agilent>
- **Need to place a service call?**
<https://www.agilent.com/en/promotions/flexible-repair-options>

Site Preparation

Module List

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

Module	Instrument Description
G4260B	1260 Infinity II Evaporative Light Scattering Detector
G7102A	1290 Infinity II Evaporative Light Scattering Detector
G7104A	1290 Infinity II Flexible Pump
G7104C	1260 Infinity II Flexible Pump
G7110B	1260 Infinity II Isocratic Pump
G7111A	1260 Infinity II Quaternary Pump VL
G7111B	1260 Infinity II Quaternary Pump
G7112B	1260 Infinity II Binary Pump
G7114A	1260 Infinity II Variable Wavelength Detector
G7114B	1290 Infinity II Variable Wavelength Detector
G7115A	1260 Infinity II Diode Array Detector WR
G7116A	1260 Infinity II Multicolumn Thermostat
G7116B	1290 Infinity II Multicolumn Thermostat
G7117A	1290 Infinity II Diode Array Detector FS
G7117B	1290 Infinity II Diode Array Detector
G7117C	1260 Infinity II Diode Array Detector HS
G7120A	1290 Infinity II High-Speed Pump
G7121A	1260 Infinity II Fluorescence Detector
G7121B	1260 Infinity II Fluorescence Detector Spectra
G7122A	1260 Infinity II Degasser
G7129A	1260 Infinity II Vialsampler
G7129B	1290 Infinity II Vialsampler
G7129C	1260 Infinity II Vialsampler
G7130A	InfinityLab Integrated Column Compartment
G7167-60201	InfinityLab Sample Thermostat

Module	Instrument Description
G7162A	1260 Infinity II Refractive Index Detector
G7162B	1290 Infinity II Refractive Index Detector
G7165A	1260 Infinity II Multiple Wavelength Detector
G7167A	1260 Infinity II Multisampler
G7167B	1290 Infinity II Multisampler
G7167C	1260 Infinity II Hybrid Multisampler
G7131A	1290 Infinity II Bio Flexible Pump
G7131C	1260 Infinity II Bio Flexible Pump
G7132A	1290 Infinity II Bio High-Speed Pump
G5654A	1260 Infinity II Bio-inert Quaternary Pump
G5664B	1260 Infinity II Bio-inert Fraction Collector
G7137A	1290 Infinity II Bio Multisampler
G5668A	1260 Infinity II Bio-inert Multisampler
G1364F	1260 Infinity II Analytical Fraction Collector
G4208A	1200 Infinity Series Instant Pilot
G7108AA	InfinityLab Companion
G7885A	1260 Infinity II Multi-Angle Light Scattering Detector
G7886A	1260 Infinity II GPC/SEC Column Thermostat
G7887A	GPC/SEC-Ready Kit

Dimensions and Weight

Identify the laboratory bench space before your system arrives based on the table below. Pay special attention to the total height and total weight requirements for all system components you have ordered and avoid bench space with overhanging shelves. Also pay special attention to the total weight of the modules you have ordered to ensure your laboratory bench can support this weight.

Special notes

The following table provides dimensions and weight requirements.

- This product requires additional lifting assistance in order to be located in your lab due to its weight. Please discuss the arrangements for this activity with the service engineer **prior to installation**.

Instrument Description	Weight		Height		Depth		Width	
	kg	lbs	mm	in	mm	in	mm	in
G7102A, G4260B	11 ¹ , 13 ²	24.3 ¹ , 28.7 ²	415	16.3	450	17.7	200	7.9
G7104A, G7104C	16.1	35.5	180	7.1	436	17.2	396	15.6
G7131A, G7131C	16.8	37.0	180	7.1	436	17.2	396	15.6
G7110B	12.6	28	180	7.1	436	17.2	396	15.6
G7111A, G7111B, G5654A	14.5	32	180	7.1	436	17.2	396	15.6
G7112B	17.6	38.8	180	7.1	436	17.2	396	15.6
G7114A, G7114B	11	24.3	140	5.5	436	17.2	396	15.6
G7115A	12	26.5	140	5.5	436	17.2	396	15.6
G7116A, G7116B	12.5	27.6	160	6.3	436	17.2	435 (460 ³ , 472 ⁴)	17.1 (18.1 ³ , 18.6 ⁴)
G7117A, G7117B, G7117C	11.5	25.4	140	5.5	436	17.2	396	15.6
G7120A	21	46.3	200	7.9	436	17.2	396	15.6
G7132A	22.5	49.6	200	7.9	436	17.2	396	15.6
G7121A, G7121B	11.9	26.2	140	5.5	436	17.2	396	15.6
G7122A	7	16	80	3.1	436	17.2	396	15.6
G7129A, G7129B, G7129C	19 ⁵	41.9 ⁵	320	12.8	468	18.4	396	15.6
G7130A ⁶	1.8		86.5		106.5		396	
G7167-60201 ⁶	<6 kg		205		370		340	

Instrument Description	Weight		Height		Depth		Width	
	kg	lbs	mm	in	mm	in	mm	in
G7162A, G7162B	15	33	180	7.1	436	17.2	396	15.6
G7165A	12	26.5	140	5.5	436	17.2	396	15.6
G7167A, G7167B, G5668A, G7137A, G7167C	22 ⁵	48.5 ⁵	320	12.6	468	18.4	396	15.6
G1364F, G5664B	13.5 ⁷	29.8 ⁷	200	8	440	17.0	345	13.5
G7885A	16.5	36.4	160	6.3	460	18.1	260	10.3
G7886A	12.5 ^{1, 16} ²	28 ¹ , 35.5 ²	600	24	345	14	177	7

¹ non-cooled

² cooled

³ width with the left column ID tag reader

⁴ width with two column ID tag readers

⁵ without sample thermostat

⁶ is a fully integrated module, therefore it only contributes to the hosting module's weight

⁷ without thermostat

Equipment Positioning on the Bench

- The module dimensions and weight allow you to place the module on almost any desk or laboratory bench. It needs an additional 2.5 cm (1.0 inch) of space on either side and approximately 8 cm (3.1 inches) in the rear for air circulation and electric connections. The ELSD needs an additional approximately 15 cm (5.9 inches) of space in the rear for air circulation and electric connections. If the bench shall carry a complete HPLC system, make sure that the bench is designed to bear the weight of all modules. The autosampler module, especially with a sample thermostat installed, should be operated in a proper horizontal position.
- To calculate the height of the stack, sum the height of the individual modules of your stack. If a solvent cabinet (p/n 5067-6871) is placed on top of the stack, add 2.5 cm (1.0 inches) floor level of the solvent cabinet, plus the height of the bottles, plus the height of bottle head assemblies in use.

The solvent cabinet has the following dimensions (height x depth x width):

92 x 436 x 396 mm (3.6 x 17.2 x 15.6 inches)

Environmental Conditions

Operating your instrument within the recommended temperature ranges ensures optimum instrument performance and lifetime.

Special notes

- Performance can be affected by sources of heat & cold, e.g. direct sunlight, heating/cooling from air conditioning outlets, drafts and/or vibrations.
- The bench or supporting surface must be vibration free.
- The laboratory's ambient temperature conditions must be stable for optimum performance.
- Heat, cold, or vibration generated from other InfinityLab LC Series modules, which are installed according to instructions provided by Agilent Technologies, do not affect the performance of the LC system.

The following table may help you calculate the additional BTUs of heat dissipation from this new equipment. Maximums represent the heat given off when heated zones are set for maximum temperatures.

Instrument Description	Operating Temperature Range °C (°F)	Operating Humidity Range %
G7102A, G4260B	10 – 35 °C (50 – 95 °F), constant temperature	< 95 % r.h. at 40 °C (104 °F), non-condensing
G7104A, G7104C, G7110B, G7111A, G7111B, G5654A, G7112B, G7114A, G7114B, G7115A, G7116A, G7116B, G7120A, G7121A, G7121B, G7132A, G7131A, G7131C, G7162A, G7162B, G7165A, G7117A, G7117B, G7117C	4 – 55 °C (39 – 131 °F), constant temperature	< 95 % r.h. at 40 °C (104 °F), non-condensing
G7130A	4 – 55 °C (39 – 131 °F), constant temperature	< 95 % r.h. at 40 °C (104 °F), non-condensing ¹
G7167A, G7167B, G5668A, G7137A, G7167C, G7167-60201	4 – 40 °C (39 – 104 °F), constant temperature	< 95 % r.h. at 40 °C (104 °F), non-condensing ¹
G7129A, G7129B, G7129C	4 – 40 °C (39 – 104 °F), without Sample Thermostat up to 55 °C (131 °F)	< 95 % r.h. at 40 °C (104 °F), non-condensing ¹

Instrument Description	Operating Temperature Range °C (°F)	Operating Humidity Range %
G7122A	0 – 55 °C (32 – 131 °F), constant temperature	< 95 % r.h. at 40 °C (104 °F), non-condensing
G1364F, G5664B	4 – 40 °C (39 – 104 °F)	< 95 % r.h. at 25 – 40 °C (77 – 104 °F), non-condensing ¹
G7885A	10 – 30 °C (50 – 86 °F)	20 – 80 % r.h. (non-condensing)
G7886A	Ambient 10 – 90 °C, with 1 °C increments Ambient 10 – 75 °C, with 1 °C increments, if column selection valve is installed	20 – 80 % r.h.

¹ If a thermostat is installed, the upper humidity limit can be reduced. Please check your lab conditions to stay beyond dew point values for non-condensing operation.

Power Consumption

Special notes

- If a computer system is supplied with your instrument, be sure to account for those electrical outlets.
- The heat dissipation can be calculated from the active power, using the following equation:
 $1 \text{ W} = 3.413 \text{ BTU/h}$

Instrument Description	Line Voltage and Frequency V, Hz	Maximum Power Consumption VA	Maximum Power Consumption W
G7102A, G4260B	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	480 VA	150 W
G7104A, G7104C, G7131A, G7131C	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	120 VA	110 W
G7110B, G7111A, G7111B, G5654A	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	80 VA	65 W
G7112B	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	90 VA	74 W
G7114A, G7114B, G7162A, G7162B	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	80 VA	70 W
G7116A, G7116B	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	150 VA	150 W
G7115A, G7117A, G7117B, G7117C, G7165A	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	110 VA	100 W
G7120A, G7132A	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	210 VA	180 W
G7121A, G7121B	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	70 VA	60 W
G7122A	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	30 VA	30 W
G7129A, G7129B, G7129C	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	350 VA ¹	350 W ¹
G7130A			110 W
G7162A, G7162B	100 – 240 V (AC) ($\pm 10\%$) 50 or 60 Hz ($\pm 5\%$)	80 VA	70 W

Instrument Description	Line Voltage and Frequency V, Hz	Maximum Power Consumption VA	Maximum Power Consumption W
G7167A, G7167B, G5668A, G7137A, G7167C	100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %)	180 VA ²	180 W ²
G1364F, G5664B	100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %)	200 VA	180 W
G7885A	100 – 240 V (AC), 50 – 60 Hz		155 W
G7886A	115 – 230 V (± 10 %) 50 – 60 Hz	550 VA	

¹ Maximum power consumption corresponds to a sampler with the Sample Thermostat and the Integrated Column Compartment installed.

² Maximum power consumption corresponds to a sampler with the Sample Thermostat installed.

- Use the correct power cord.
- For G7886A: If the selected voltage is not correct, change to the proper voltage setting by removing, inverting, and then re-entering the voltage selector cartridge.

Required Operating Supplies by Customer for Installation

Special notes

- For information on Agilent consumables, accessories, and laboratory operating supplies, please visit: <https://www.agilent.com/en-us/products/lab-supplies>

Special Requirements and Other Considerations

Solvent requirements

Customer should have available HPLC grade solvents (isopropanol, water, acetonitrile and/or methanol) with a dry residue below 1 ppm or MS grade solvents.

G7102A ELSD, G4260B ELSD

Gas requirements

A supply of inert gas (typically nitrogen) is required to operate these detectors. The gas supply needs to be free of oil, humidity and particles, as such contaminations will create background noise in the chromatograms and may damage the built-in pressure sensor. In case of such noise, flush the gas lines for sufficient time (might take days) and use additional filters of 0.5 µm or less. The typical gas pressure is 4 bar (60 psi) and must be set by an external pressure regulator. Pure gas is not required as the gas is only used as a carrier for the solid sample particles. The gas inlets of the detector have an outer diameter of 4 mm (0.157 inches). The lab installation must therefore allow the installation of a tubing with 4 mm (0.157 inches) outer diameter. Gas consumption is typically 0.9 SLM to 3.25 SLM, depending on the detector settings.

Item description, (including dimensions etc)	Vendor/Part Number (if applicable)	Recommended quantity
G7102A, G4260B ELSD Gas Nitrogen (typical)	N/A	N/A

NOTE

- Air can only be used for non-flammable solvents.
- The mass flow controller is not calibrated for use with gases other than air or nitrogen.
- Nitrogen should be of 98 % purity or better with a maximum pressure of 6.9 bar (100 psi).
- For operation with other inert gases contact Agilent Technologies for advice.

Precautions: Solvent Vapors

Vapor sensors are used inside and outside the enclosure of the Agilent 1290 Infinity II ELSD to alert the operator to solvent leaks. Liberal use of organic solvents in close proximity to the instrument may activate the vapor sensor, causing the instrument to shutdown.

Exhaust venting and drain requirements

The exhaust from the detector must be directed into a fume hood or exhaust vent. If a vacuum is used, it should be moderate so as to avoid turbulence in the optical chamber leading to a much reduced sensitivity of the detector. The potentially hazardous exhaust of evaporated solvent and sample must not be allowed to enter the laboratory atmosphere and any appropriate accessory like solvent filters should be disposed according to local environmental requirements.

If the extraction tube provided with the instrument is to be extended it is recommended that the diameter of the extension is increased to at least 50 mm (2 inches) diameter tubing so the extraction quality is not inhibited.

NOTE

Do not connect the exhaust vent directly to the detector. This might cause either positive pressure or negative back pressure, both of which will impact the quality of your measurement results.

The drain tube must be directed to a waste container. The user is responsible for decontamination or recycling of any residue, according to local environmental requirements.

Further requirements

The 1290 Infinity II ELSD (G7102A) and the 1260 Infinity II ELSD (G4260B) can be controlled either via RS232 or via LAN. If the RS232 interface is used for control, the ELSD must be installed close to the control PC unless special data transmission systems are used. The length of the straight female/female RS232 cable supplied with both detectors is 2.9 m.

G7167-60201 Sample Thermostat

The Sample Thermostat uses isobutane (R600a) as refrigerant, which is environmentally friendly but flammable. Therefore, make some special considerations for the safe operation of the device:

- Keep open fire or sources of ignition away from the device.
- Ensure a room size of 1 m³ for every 8 g of R600a refrigerant inside the Sample Thermostat (total refrigerant loading is max. 30 g).
- Ensure adequate ventilation: typical air exchange of 25 m³/h per m² of laboratory floor area.
- Do not use mechanical devices or other means to accelerate the defrosting process.
- Keep the ventilation openings on the housing clear of any obstruction or blockage.

G7885A 1260 Infinity II Multi-Angle Light Scattering Detector

Extra Customer Responsibilities

For the 1260 Infinity II Multi-Angle Light Scattering Detector, the following extra points must be provided:

- The required operating supplies necessary for the product and installation for aqueous applications (including capability of injecting 100 μL with a manual injector or autosampler).
 - Clean and sterile solvent bottle with 100 μm Triple-filtered Water (lab water of UHP 18 MOhm or LS/MS grade) containing 0.05 % sodium azide (Azide is optional).
 - Restriction capillary, SST 0.12 mm ID, 2 m long (5022-2159).
 - In-Line Filter Assembly 0.5 μm cutoff (Agilent recommends: UCA431).
 - Agilent Advance GPC/SEC SUPREMA Lux 1000 \AA , 8 x 300 mm, 5 μm (SUA0830051E3LS).
- The required operating supplies necessary for the product and installation for organic applications (including capability of injecting 100 μL with a manual injector or autosampler).
 - Clean and sterile solvent bottle with unstabilized tetrahydrofuran (THF).
 - Restriction capillary, SST 0.12 mm ID, 2 m long (5022-2159).
 - In-Line Filter Assembly 0.5 μm cutoff (Agilent recommends: UCA431).
 - Agilent Advanced GPC/SEC SDV Lux 100000 \AA , 8 x 300 mm, 5 μm (SDA0830051E5LS).

Stack Configurations

NOTE

Generally install a G7122A Degasser underneath the pump.

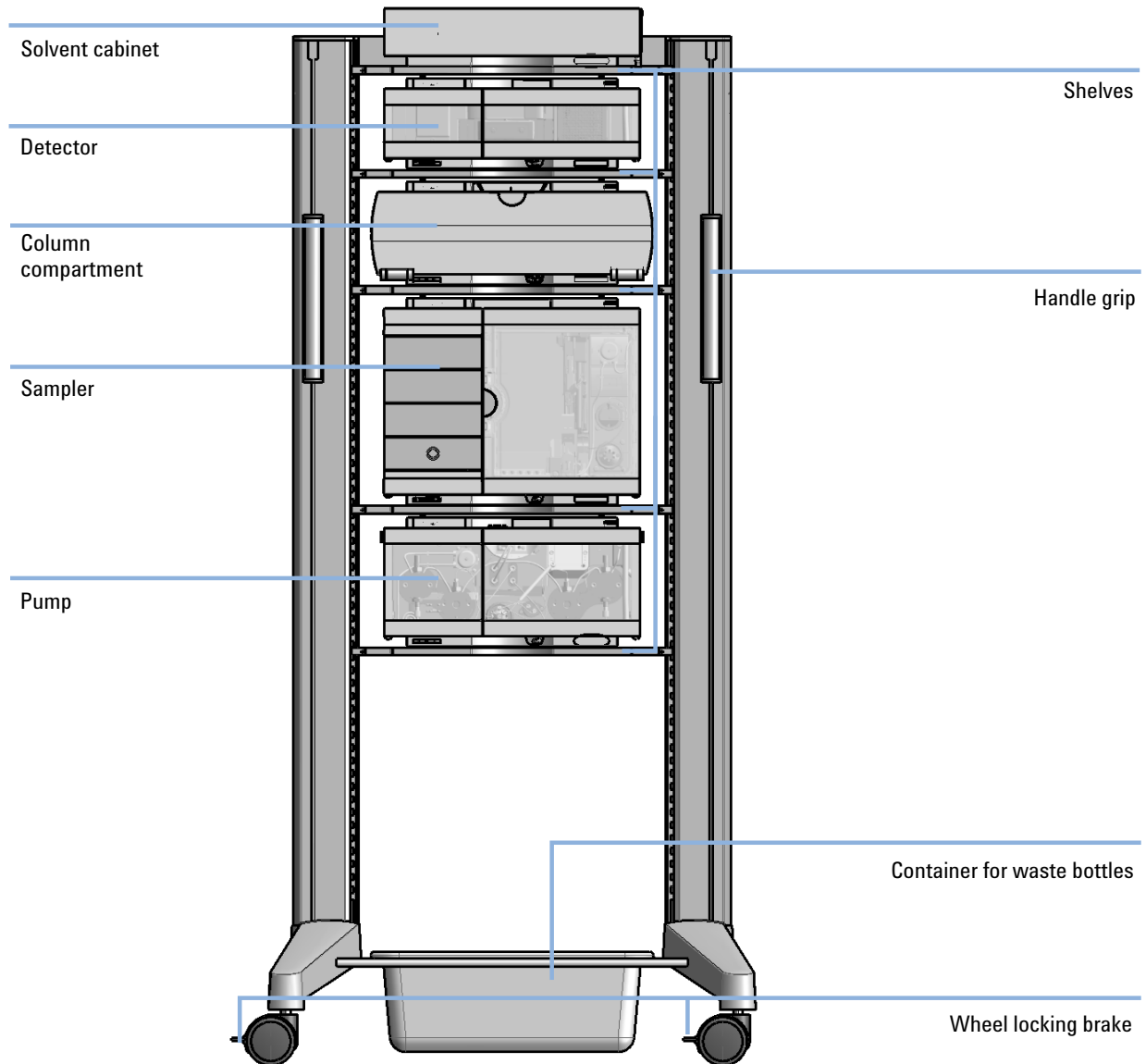


Figure 1 Agilent InfinityLab Flex Bench

NOTE

Fraction Collectors are stacked in their own separate stack.

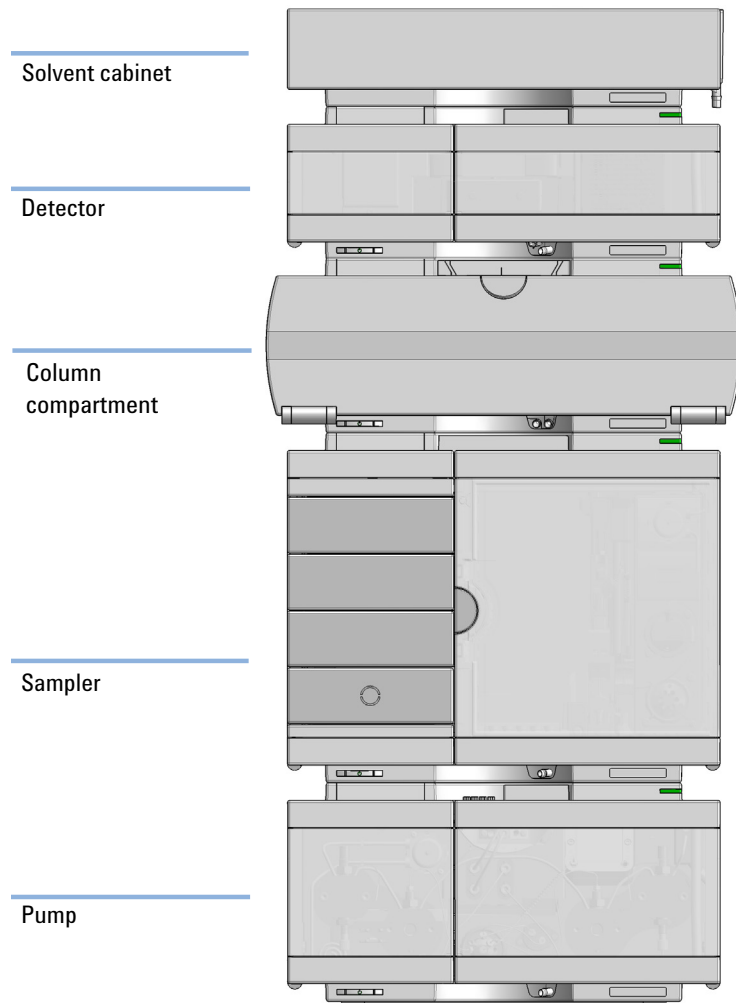


Figure 2 Single stack configuration (bench installation, example shows a Multisampler)

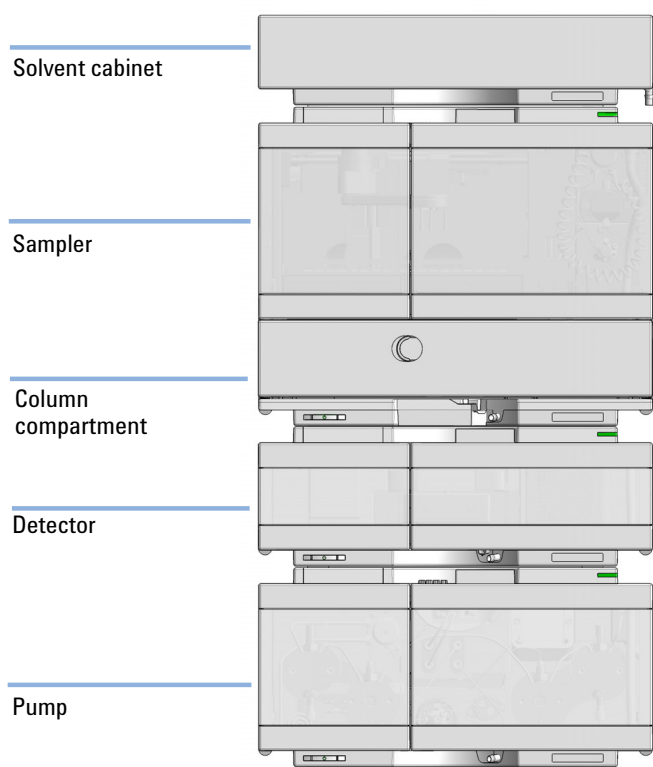


Figure 3 Single stack configuration (bench installation, example shows a Vialsampler with optional ICC installed)

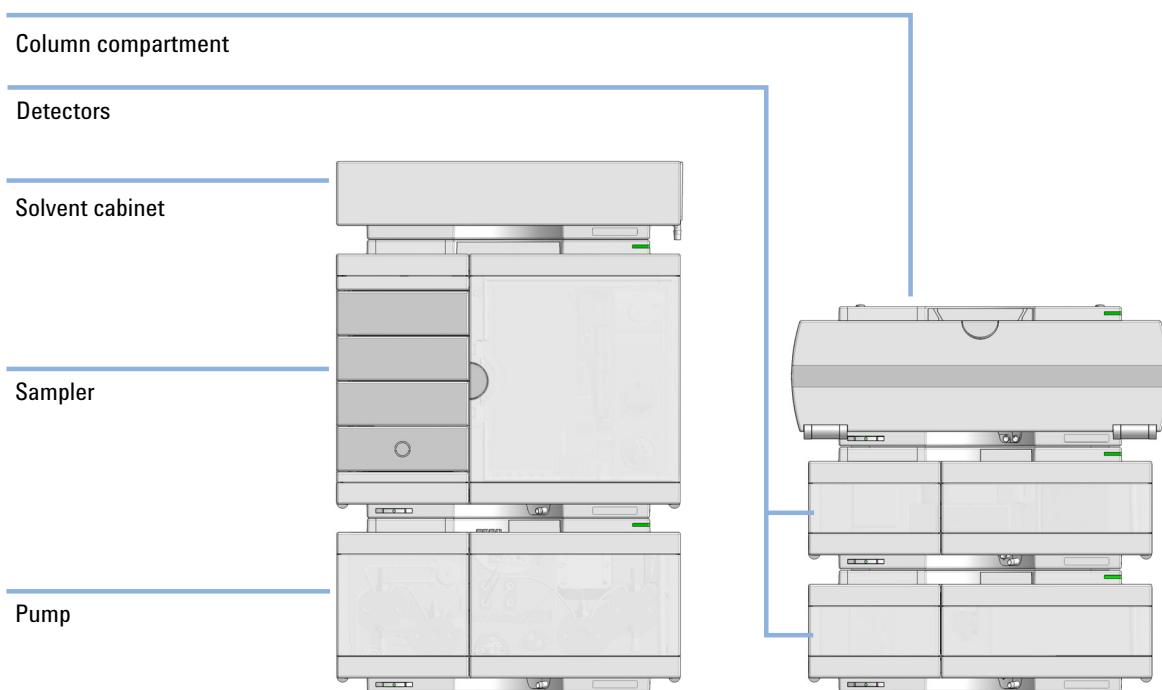


Figure 4 Two stack configuration (bench installation, example shows a Multisampler)

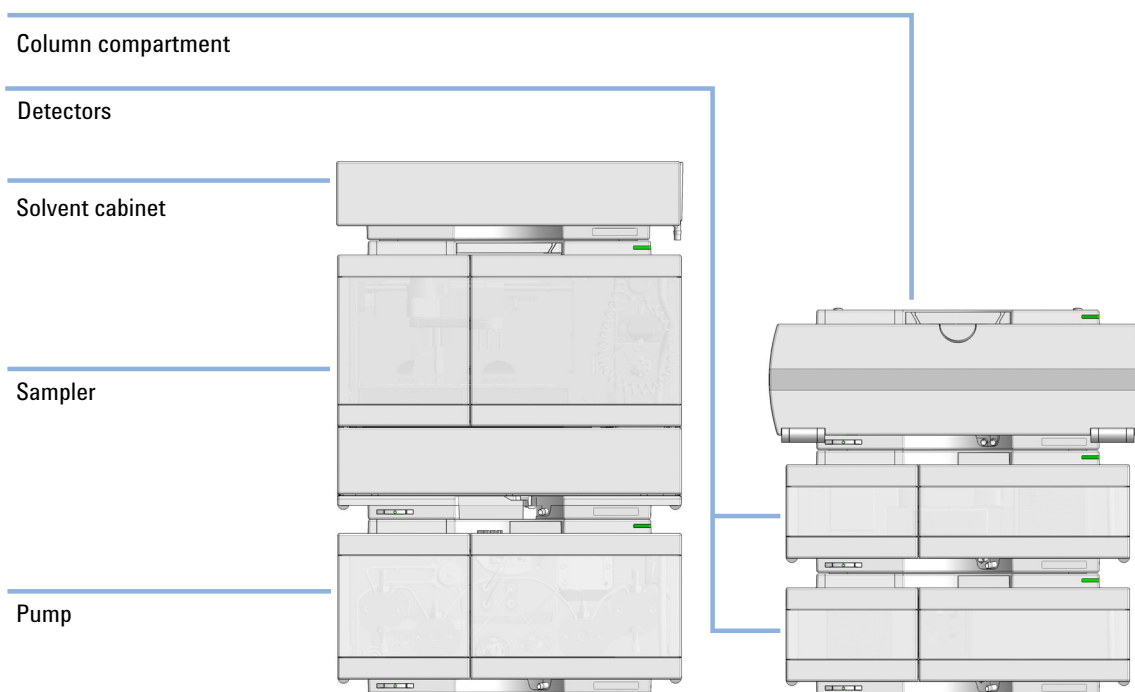


Figure 5 Two stack configuration (bench installation, example shows a Vialsampler coupled with a standalone column compartment)

Mixed Stack Configurations

NOTE

The optimal stack configuration may vary. For details, refer to the documentation of the system in use. General recommendations for the Multisampler:

- Stack the Multisampler at the same position as recommended for other autosamplers.
- Arrange the Multisampler coaxial to the other modules.

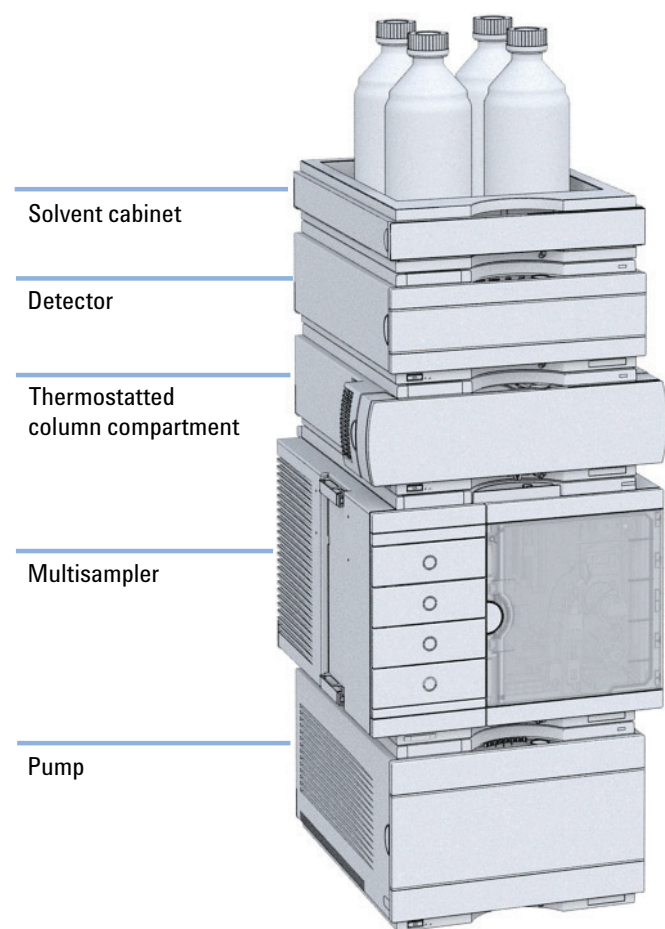


Figure 6 Recommended mixed stack configuration in a 1290 Infinity system

Tools

Your Agilent instrument comes with a few basic tools and consumables which are relevant to the specific configuration of your system.

Service Engineer Review (Optional)

Service Engineer Comments

If the Service Engineer completed a review of the Site Preparation requirements with the customer, the Service Engineer should complete the following Comments section.

If there are any specific points that should be noted as part of performing the service review or other items of interest for the customer, please write in this box.

Site Preparation Verification

Service Request Number:
.....

Date of Service Completion:
.....

Service Engineer Name:
.....

Customer Name:
.....

Service Engineer Signature:
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