

Agilent InfinityLab LC Series

Site Preparation Checklist

Thank you for purchasing an Agilent *instrument*. To get you started and to assure a successful and timely installation, please refer to this specification or set of requirements.

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, consumables, space, and utility requirements for your equipment.

Introduction

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 environmental conditions for the site as well as laboratory gases, plumbing and extraction.
- The power requirements related to the product (e.g. number and location of electrical outlets).
- The required operating supplies necessary for the product and installation.
- If Agilent is delivering Installation and Familiarization 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 section for other product-specific information.
- HPLC grade (or better) solvents needed for installation (acetonitrile, isopropanol, and water).

Customer Information

- 1 If you have questions or problems in providing anything described as a Customer Responsibility, please contact your local Agilent or partner support service organization for assistance before the scheduled installation. In addition, Agilent and/or its partners reserve the right to reschedule the installation dependent upon the readiness of your site.
- 2 Should your site not be ready for whatever reasons, please contact Agilent as soon as possible to re-arrange any services that have been purchased.
- 3 Other optional services such as extra training, compliance services and consultation for user-specific applications may also be provided at the time of installation. Please discuss with your Agilent Sales representative before the installation is scheduled.

Important Customer Web Links

- Videos about specific preparation requirements for your instrument can be found by searching the *Agilent YouTube* channel at <https://www.youtube.com/user/agilent>
- To access *Agilent University*, visit <http://www.agilent.com/crosslab/university/> 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.
- A useful *Agilent Resource Center* web page is available, which includes short videos on maintenance, quick lists of consumables for new instruments, and other valuable information. Check out the Resource Page here: <https://www.agilent.com/en-us/agilentresources>
- Need technical support, FAQs, supplies? – visit our *Support Home page* at <http://www.agilent.com/search/support>
- Get answers. Share insights. Build connections:
Join the *Agilent Community* at <https://community.agilent.com/welcome>

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 |

| Module | Instrument Description |
|-------------|--|
| G7129A | 1260 Infinity II Vialsampler |
| G7129B | 1290 Infinity II Vialsampler |
| G7129C | 1260 Infinity II Vialsampler |
| G7130A | InfinityLab Integrated Column Compartment |
| G7167-60101 | InfinityLab Sample Thermostat |
| 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 |
| 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 |

Dimensions and Weight

Identify the laboratory bench space before your instrument arrives based on the following table.

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.

Special notes

- 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 inches) 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)

| 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 |
| 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 |

| Instrument Description | Weight | | Height | | Depth | | Width | |
|-----------------------------------|-------------------|-------------------|--------|------|-------|------|-------|------|
| | kg | lbs | mm | in | mm | in | mm | in |
| 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 | |
| G7167-60101 ⁶ | <6 kg | | 205 | | 370 | | 340 | |
| 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 | 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 |

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

Environmental Conditions

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

Special notes

- 1 Performance can be affected by sources of heat and cold, e.g., direct sunlight, heating/cooling from air conditioning outlets, drafts, and/or vibrations.
- 2 The laboratory's ambient temperature conditions must be stable for optimum performance.
- 3 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.
- 4 The following table summarizes some key physical specifications. For the complete set of physical specifications, please refer to the corresponding module's manual.

| Instrument Description | Operating temp 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, 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, G7167-60101 | 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 |
| 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 |

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

- 1 If a computer system is supplied with your instrument, be sure to account for those electrical outlets.
- 2 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) (± 10 %) 50 or 60 Hz (± 5 %) | 480 VA | 150 W |
| G7104A, G7104C | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 120 VA | 110 W |
| G7110B, G7111A, G7111B, G5654A | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 80 VA | 65 W |
| G7112B | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 90 VA | 74 W |
| G7114A, G7114B, G7162A, G7162B | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 80 VA | 70 W |
| G7116A, G7116B | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 150 VA | 150 W |
| G7115A, G7117A, G7117B, G7117C, G7165A | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 110 VA | 100 W |
| G7120A, G7132A | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 210 VA | 180 W |
| G7121A, G7121B | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 70 VA | 60 W |
| G7122A | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 30 VA | 30 W |
| G7129A, G7129B, G7129C | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 350 VA ¹ | 350 W ¹ |
| G7130A | | | 110 W |
| G7162A, G7162B | 100 – 240 V (AC) (± 10 %) 50 or 60 Hz (± 5 %) | 80 VA | 70 W |
| G7167A, G7167B, G5668A, G7137A | 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 |

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.

Required Operating Supplies by Customer for Installation

Special notes

- 1 Download the Essential Chromatography and Spectroscopy Supplies Catalogs for a complete overview about available supplies for your new and existing Agilent Instruments
<https://www.agilent.com/en-us/products/lab-supplies>

Special Requirements

Solvent requirements

Customer should have available HPLC grade solvents (acetonitrile, isopropanol, and water) 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 |

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.

G7167-60101 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 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.

Stack Configurations

NOTE

Generally install a G7122A Degasser underneath the pump.

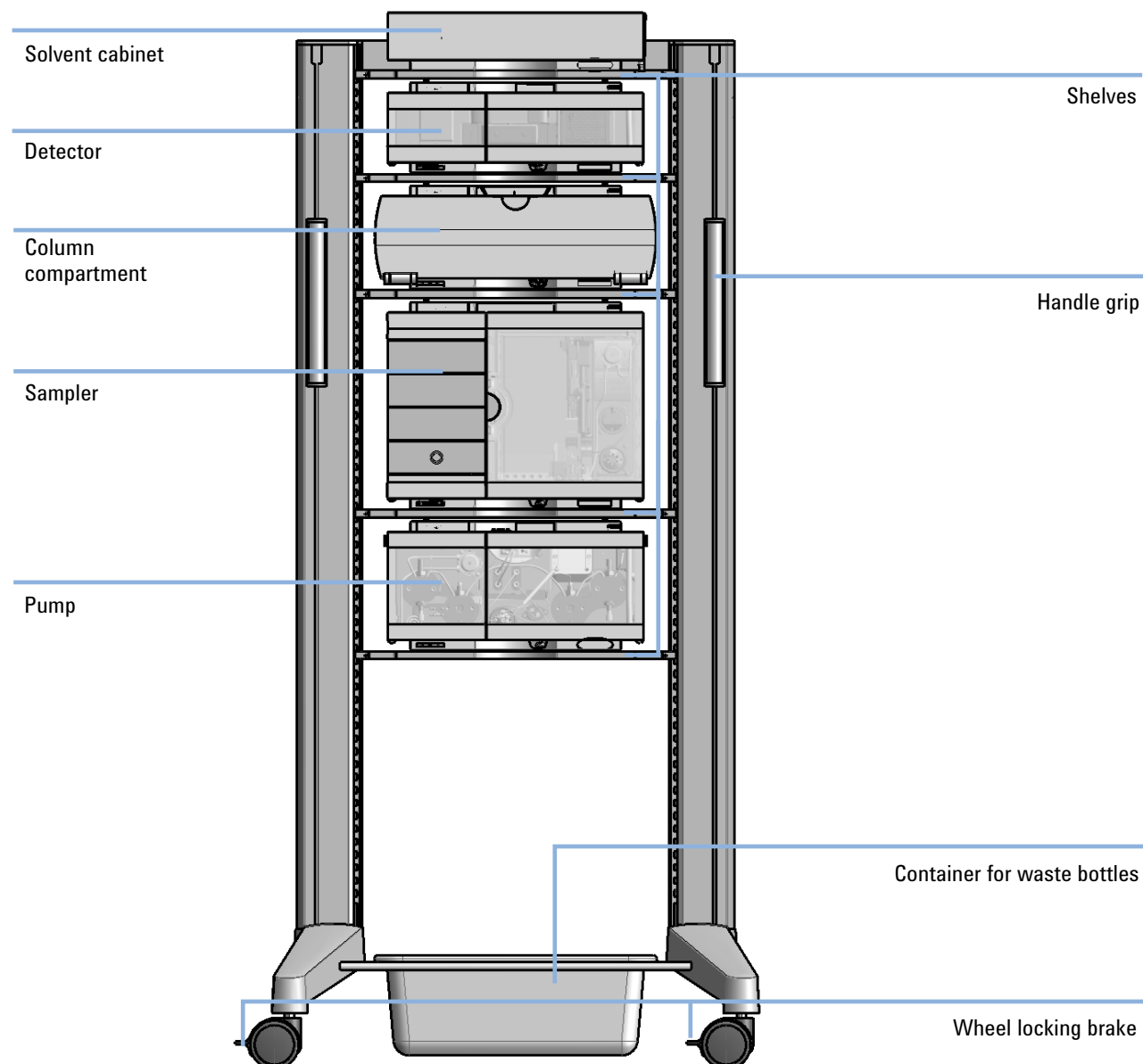


Figure 1 Agilent InfinityLab Flex Bench

NOTE

Fraction Collectors are stacked in their own separate stack.

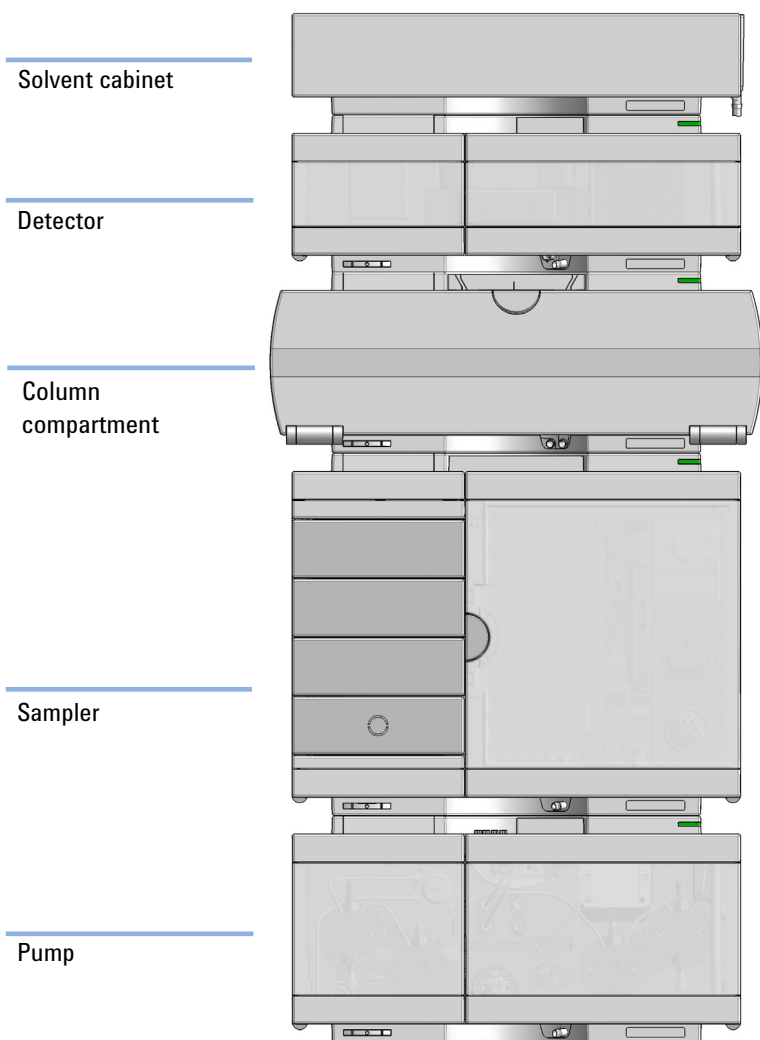


Figure 2 Single stack configuration (bench installation, example shows a Multisampler)

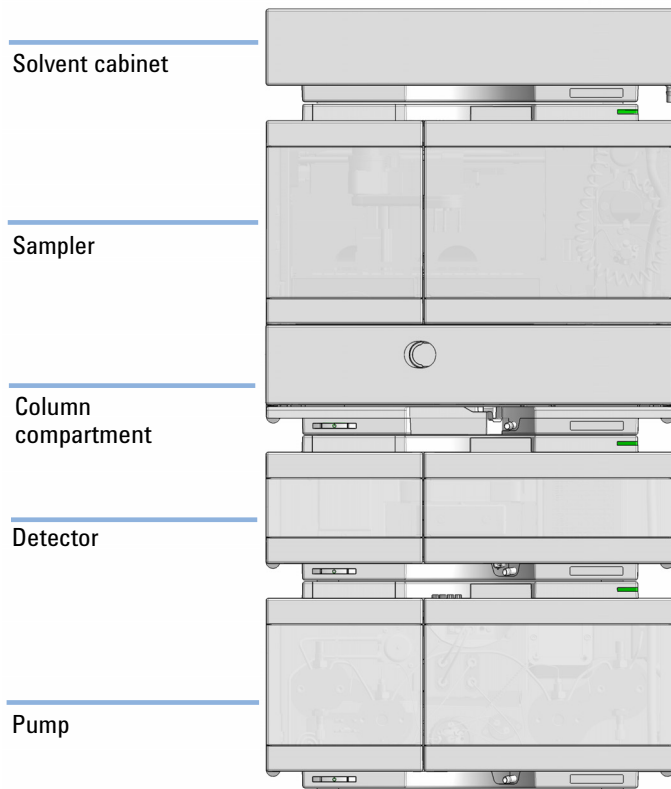


Figure 3 Single stack configuration (bench installation, example shows a Vialsampler with optional ICC installed)

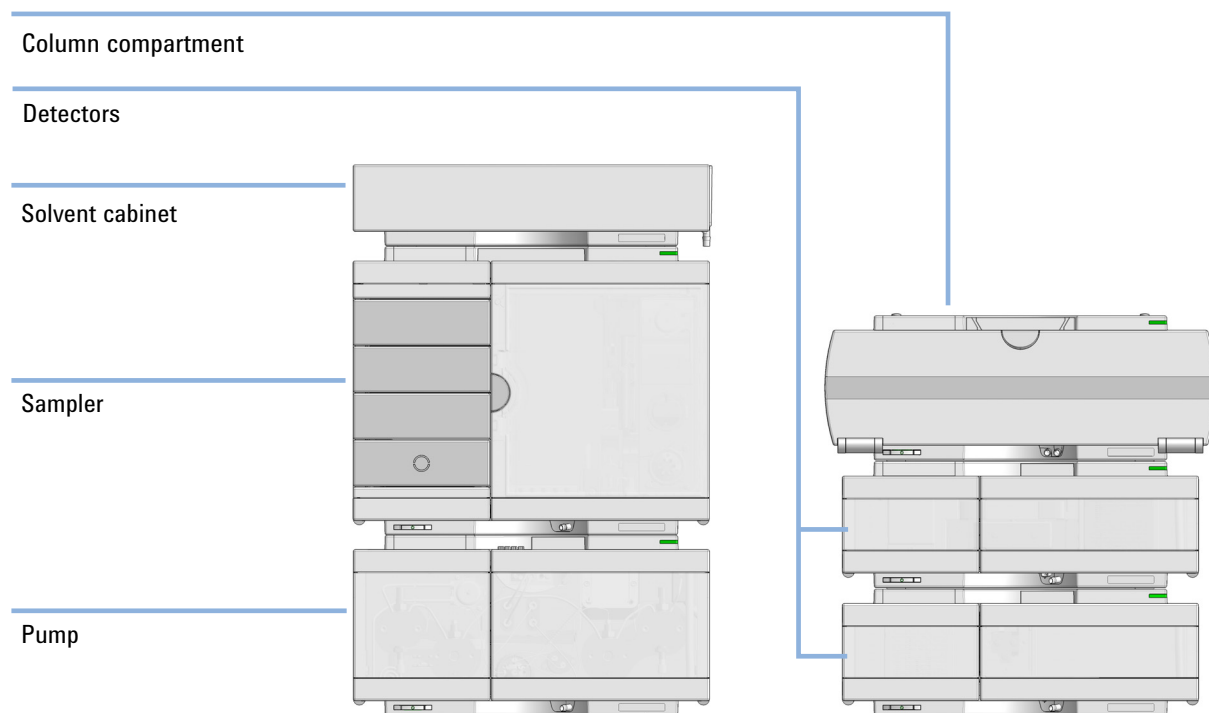


Figure 4 Two stack configuration (bench installation, example shows a Multisampler)

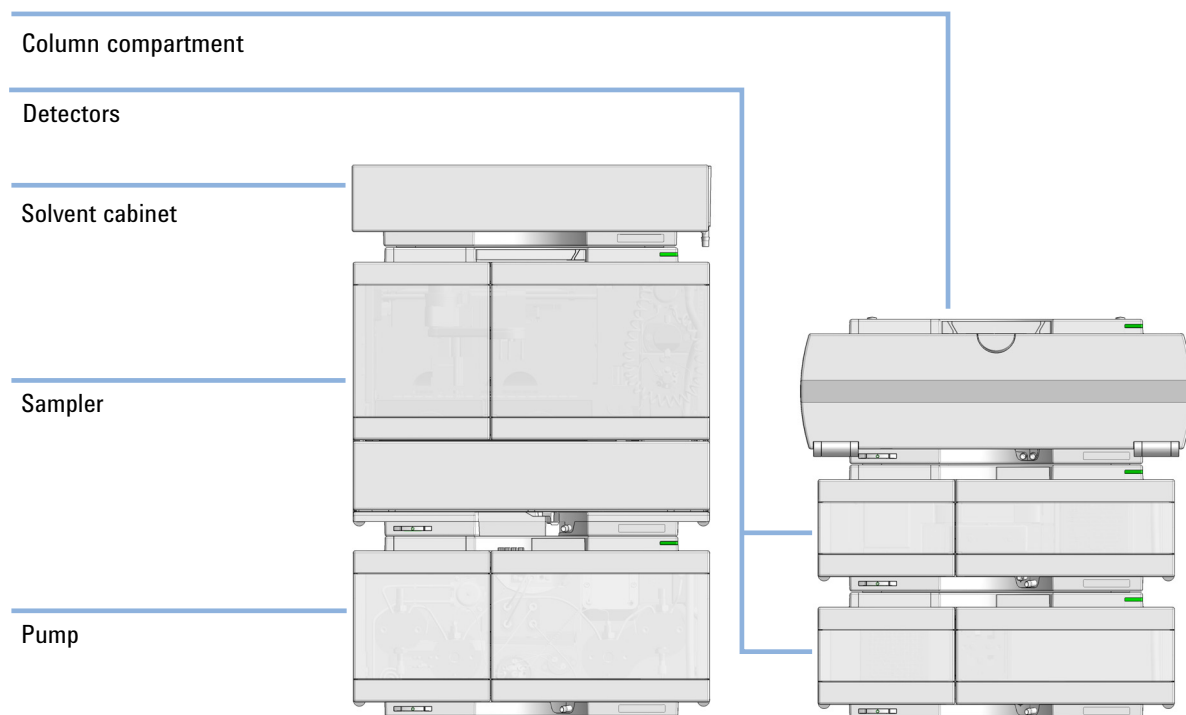


Figure 5 Two stack configuration (bench installation, example shows a Vialsampler coupled with a standalone column compartment)

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.

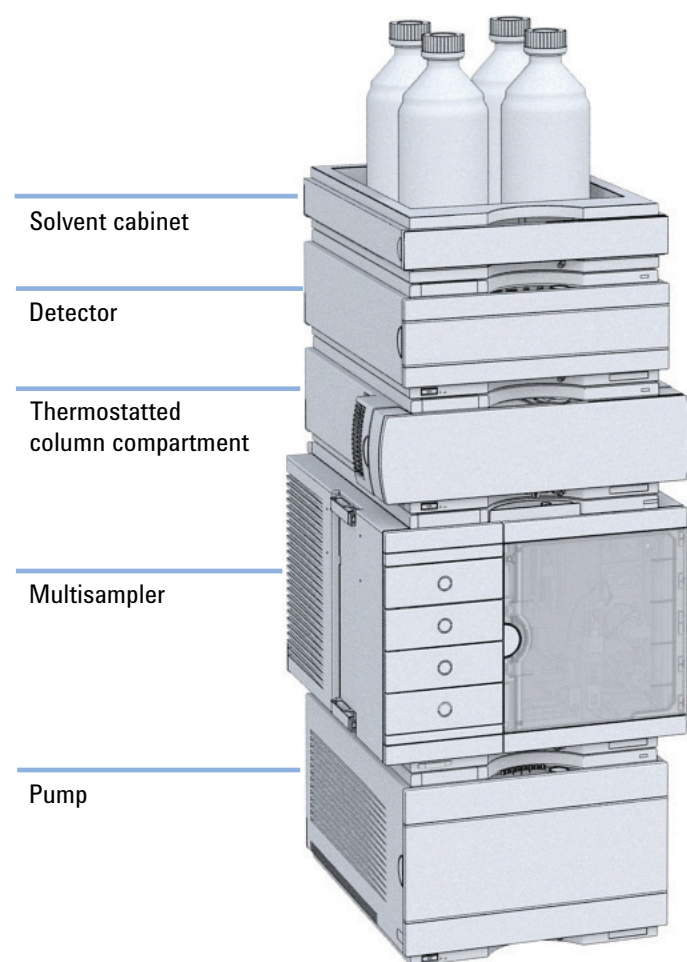


Figure 6 Recommended mixed stack configuration in a 1290 Infinity system