Agilent Technologies

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.

Customer Responsibilities

Make sure your site meets the following prior to the installation date using the checklist below. For details, see specific sections within this document, including:

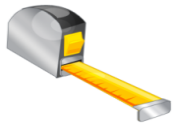
- ❑ The necessary laboratory or bench space is available.
- ❑ The environmental conditions for the lab as well as laboratory gases, tubing.
- ❑ The power requirements related to the product (e.g. number & location of electrical outlets).
- ❑ The required operating supplies necessary for the product and installation.
- ❑ Please consult Other/Special Requirements section below for other product-specific information.
- ❑ 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.

Important Customer Information

1. If you have questions or problems in providing anything described as **Customer Responsibilities** above, 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.
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 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.

Module List

Module	Instrument Description
G7102A	1290 Infinity II Evaporative Light Scattering Detector
G7104A	1290 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 DAD FS
G7117B	1290 Infinity II DAD
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 Infinity Fluorescence Detector Spectra
G7122A	1260 Infinity II Degasser
G7129A	1260 Infinity II Vialsampler
G7129B	1290 Infinity II Vialsampler
G7130A	1200 Infinity Integrated Column Compartment
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
G5654A	1260 Infinity II Bio-Inert Quaternary Pump
G5668A	1260 Infinity II Bio-Inert Multisampler
G1328B	1260 Infinity II Manual Injector
G4208A	1200 Infinity Series Instant Pilot



Dimensions and Weight

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 cooler installed should be operated in a proper horizontal position. Use a bubble level to check the leveling of the sampler.

Instrument Description	Weight		Height		Depth		Width	
	kg	lbs	mm	in	mm	in	mm	in
G7102A	11 (non-cooled), 13 (cooled)	24.3	415	16.3	450	17.7	200	7.9
G7104A	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 [1])	17.1 (18.1 [1])
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
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	16.2 with cooler add 6 kg	35.7 with cooler add 13.2 lbs	324	12.6	468	18.4	396	15.6
G7130A	1.8	3.96	86.5	3.4	106.5	4.2	396	15.6
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	<22 with cooler add 6 kg	<48.5 with cooler add 13.2 lbs	324	12.6	468	18.4	396	15.6

[1] width with column ID readers

Environmental Conditions

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. 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.

2 The site's ambient temperature conditions must be stable for optimum performance.

3 The following table summarizes some key physical specifications. For the complete set of physical specifications, please refer to the corresponding module manual.

Instrument Description	Operating temp range °C (°F)	Operating humidity range (%)
G7102A	10 – 35 °C (50 – 95 °F), constant temperature	< 95 % r.h. at 40 °C (104 °F), non-condensing
G7104, G7110B, G7111A, G7111B, G5654A, G7112B, G7114A, G7114B, G7115A, G7116A, G7116B, G7120A, G7121A, G7121B, G7130A, G7162A, G7162B, G7165A	4 – 55 °C (39 – 131 °F), constant temperature	< 95 % r.h. at 40 °C (104 °F), non-condensing
G7117A, G7117B, G7117C, G7167A, G7167B, G5668A	4 – 40 °C (39 – 104 °F), constant temperature	< 95 % r.h. at 40 °C (104 °F), non-condensing
G7129A, G7129B	4 – 40 °C (39 – 104 °F), without chiller 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

[1] If a sample cooler is included the upper value for humidity 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 the active power, using the following equation: 1 W = 3.413 BTU/h

Instrument Description	Line Voltage & Frequency (V, Hz)	Maximum Power Consumption (VA)	Maximum Power Consumption (W)
G7102A	100 – 240 V (AC), 50 or 60 Hz	480 VA	150 W (max)
G7104A	100 – 240 V (AC), 50 or 60 Hz	120 VA	110 W
G7110B, G7111A, G7111B, G5654A	100 – 240 V (AC), 50 or 60 Hz	80 VA	65 W
G7112B	100 – 240 V (AC), 50 or 60 Hz	90 VA	74 W
G7114A, G7114B, G7162A, G7162B	100 – 240 V (AC), 50 or 60 Hz	80 VA	70 W
G7116A, G7116B	100 – 240 V (AC), 50 or 60 Hz	150 VA	150 W
G7115A, G7117A, G7117B, G7117C, G7165A	100 – 240 V (AC), 50 or 60 Hz	110 VA	100 W
G7120A	100 – 240 V (AC), 50 or 60 Hz	210 VA	180 W
G7121A, G7121B	100 – 240 V (AC), 50 or 60 Hz	70 VA	60 W
G7122A	100 – 240 V (AC), 50 or 60 Hz	30 VA	30 W
G7129A, G7129B	100 – 240 V (AC), 50 or 60 Hz	350 VA	350 W
G7130A		110 VA	110 W
G7162A, G7162B	100 – 240 V (AC), 50 or 60 Hz	80 VA	70 W
G7167A, G7167B, G5668A	100 – 240 V (AC), 50 or 60 Hz	180 VA	180 W

Required Operating Supplies by Customer

Special Notes:

- For information on Agilent consumables, accessories and laboratory operating supplies, please visit http://www.chem.agilent.com/en-US/Products/consumables/Pages/default.aspx

Other/Special Requirements

G7102A

Gas requirements

A supply of inert gas (typically nitrogen) is required to operate the detector. 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 for example for newly installed gas lines, 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 ELSD Gas Nitrogen (typical)	N/A	N/A

Solvent requirements

Customer should have available HPLC grade Acetonitrile and water with a dry residue below 1 ppm or MS grade solvents.

Precautions: Solvent Vapours

Vapour 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 vapour sensor, causing the instrument to shutdown.

NOTE Please exercise with care when using solvents close to the instrument: Vapor Sensors are present in the Agilent 1290 Infinity II ELSD.

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 in) 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 supplied with the instrument. The user is responsible for decontamination or recycling of any residue, regarding to local environmental requirements.

Further requirements

The 1290 Infinity II ELSD (G7102A) 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 RS 232 cable supplied with both detectors is 2.9 m.

Stack Configurations

Agilent 1290 Infinity II Stack Configurations

NOTE Generally install a G7122A Degasser underneath the pump.

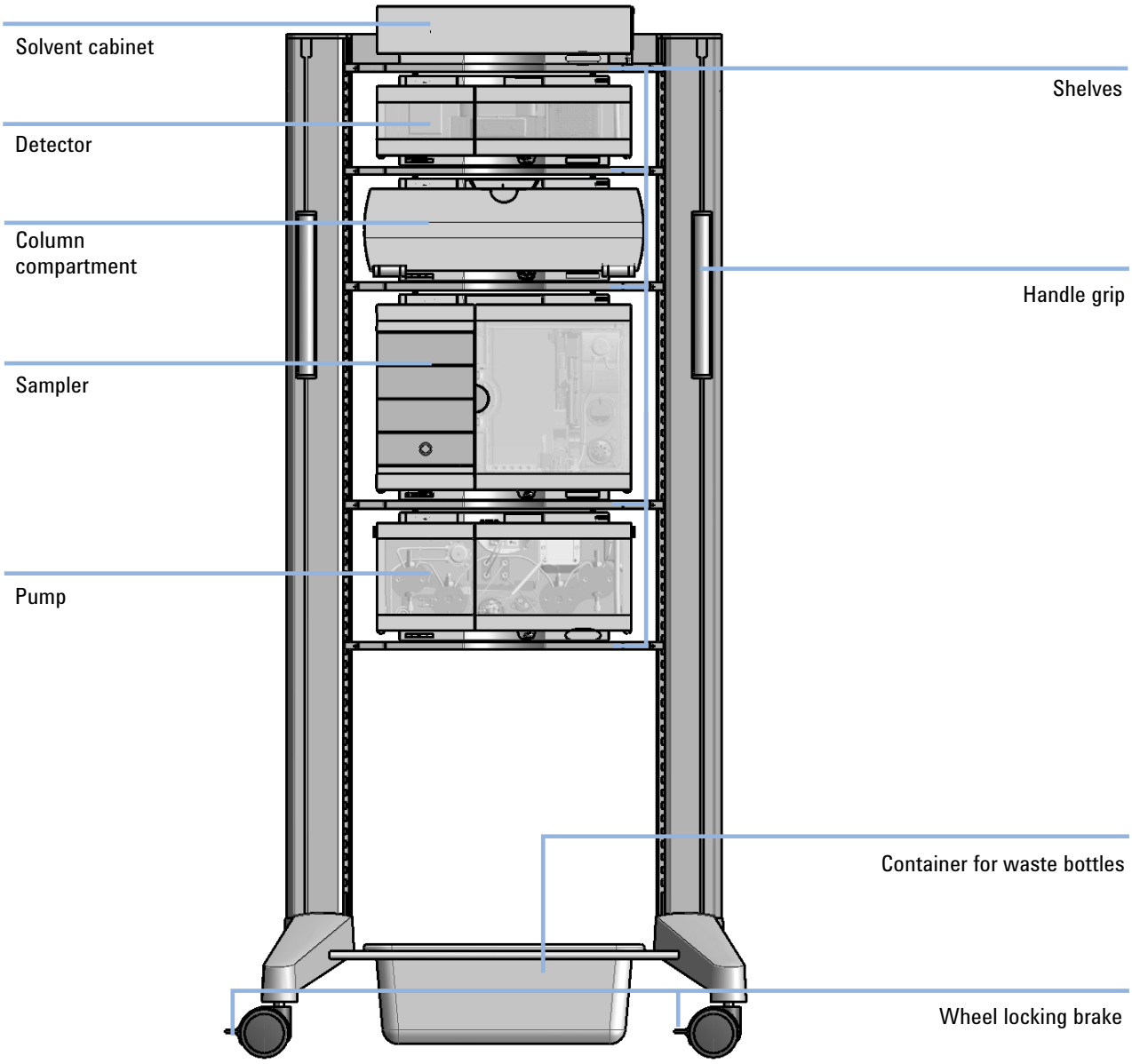


Figure 1 Agilent A-Line LC Flex Bench

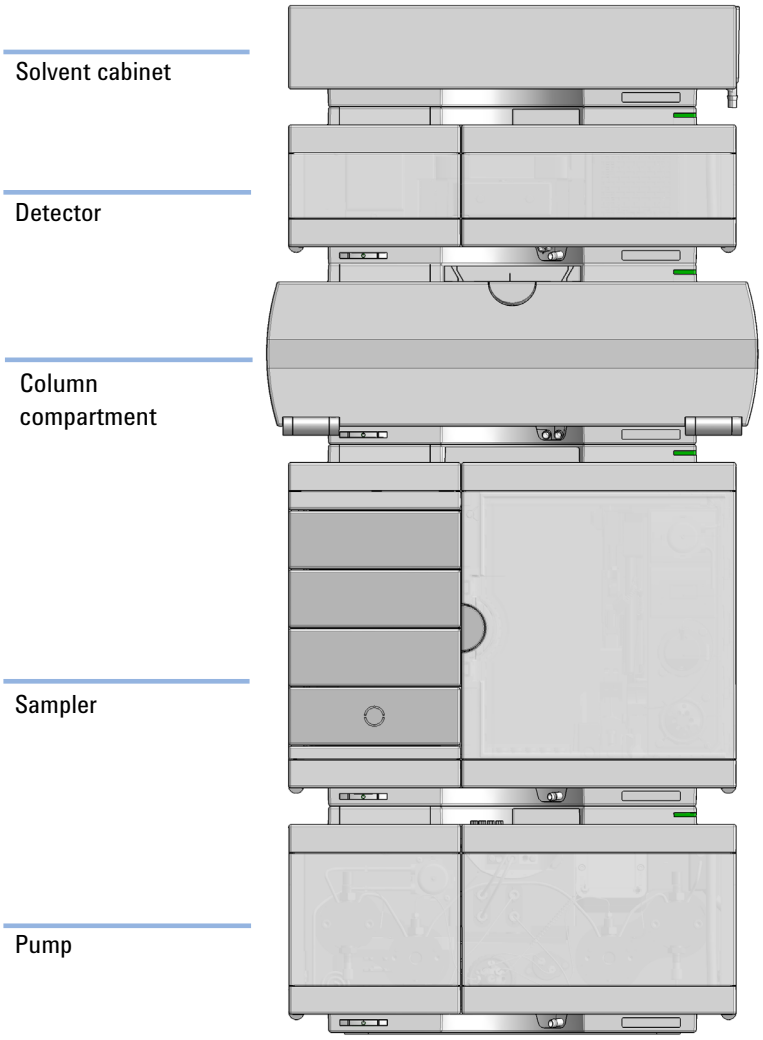


Figure 2 Single stack configuration (bench installation, example shows a multisampler)

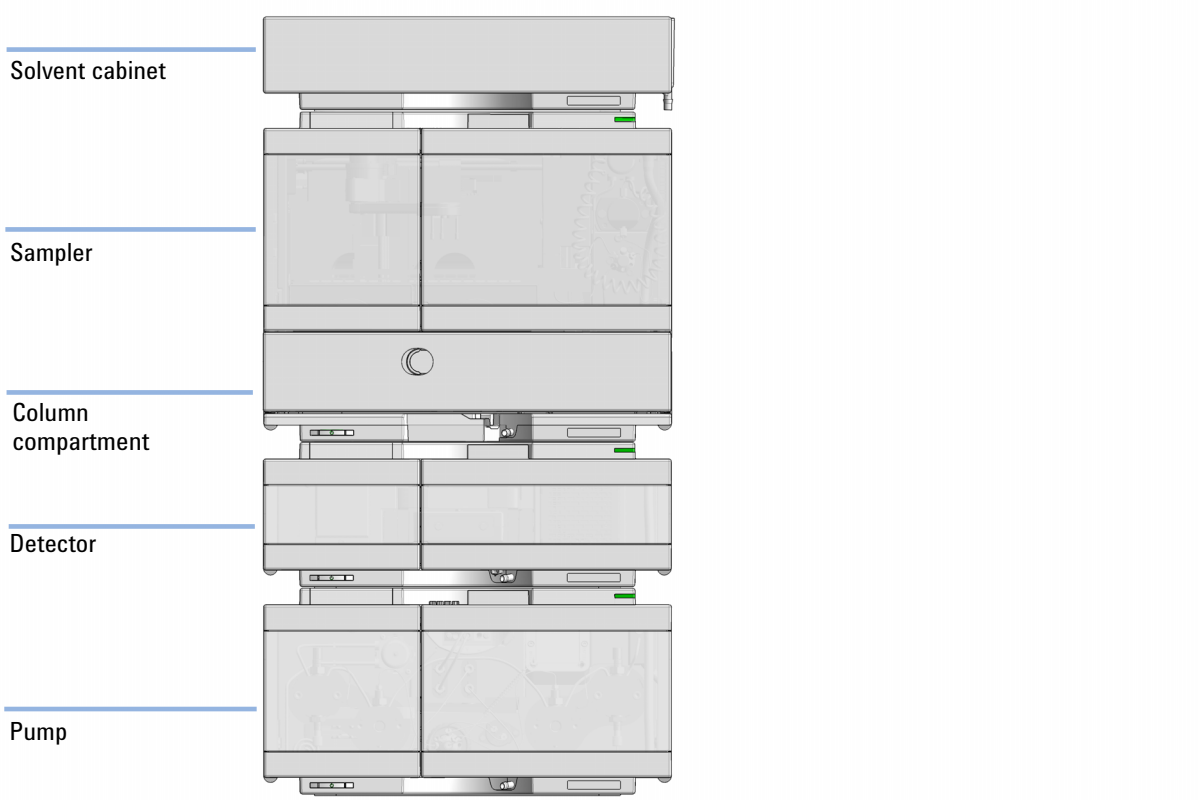


Figure 3 Single stack configuration (bench installation, example shows a vialsampler with optional ICC installed)

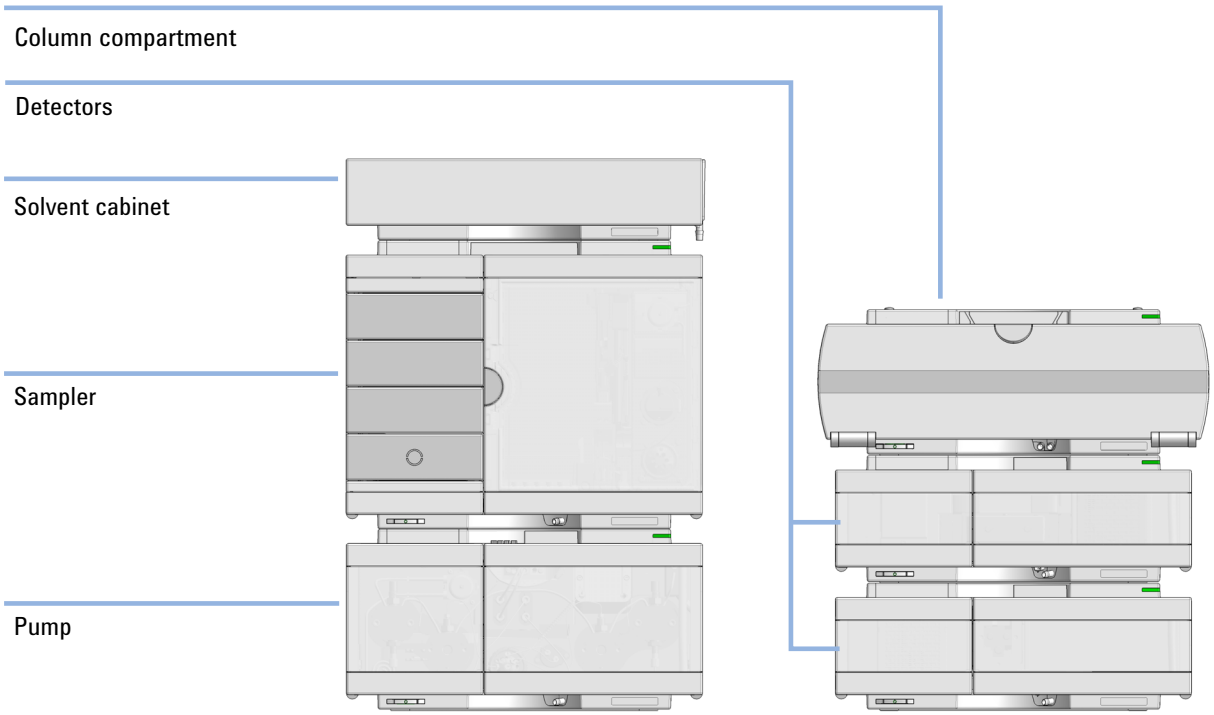


Figure 4 Two stack configuration (bench installation, example shows a multisampler)

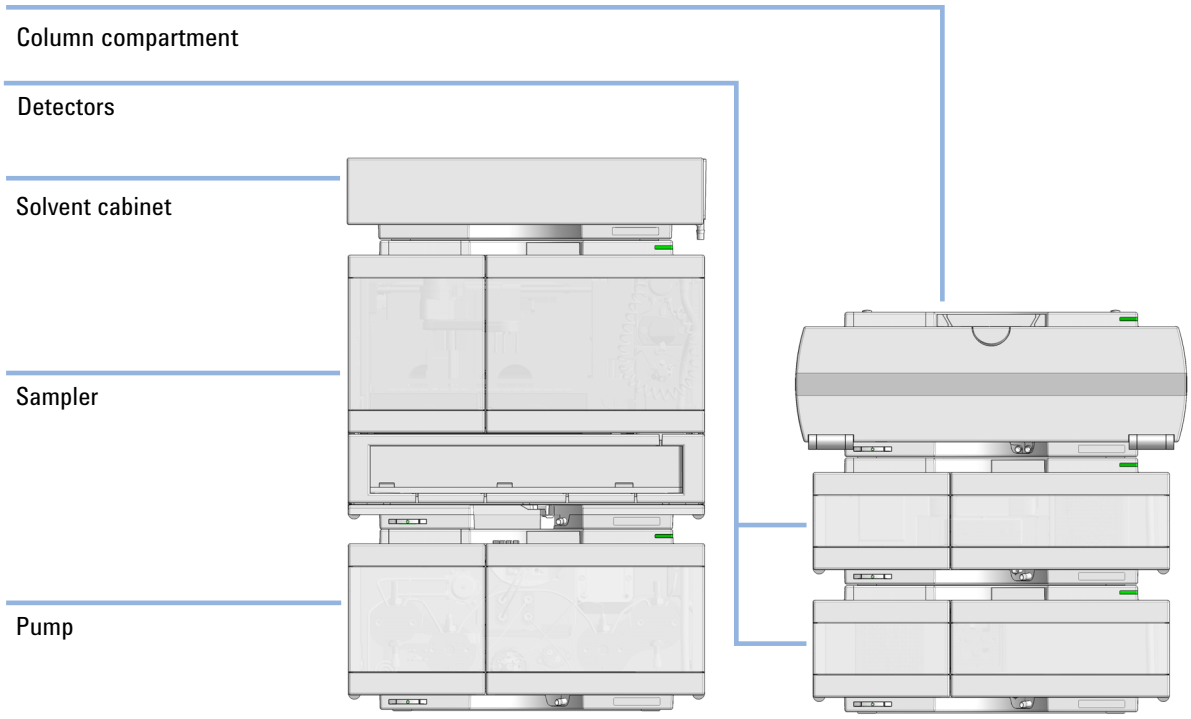


Figure 5 Two stack configuration (bench installation, example shows a vialsampler)

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.
- Install the adapter for safe leak and waste handling.

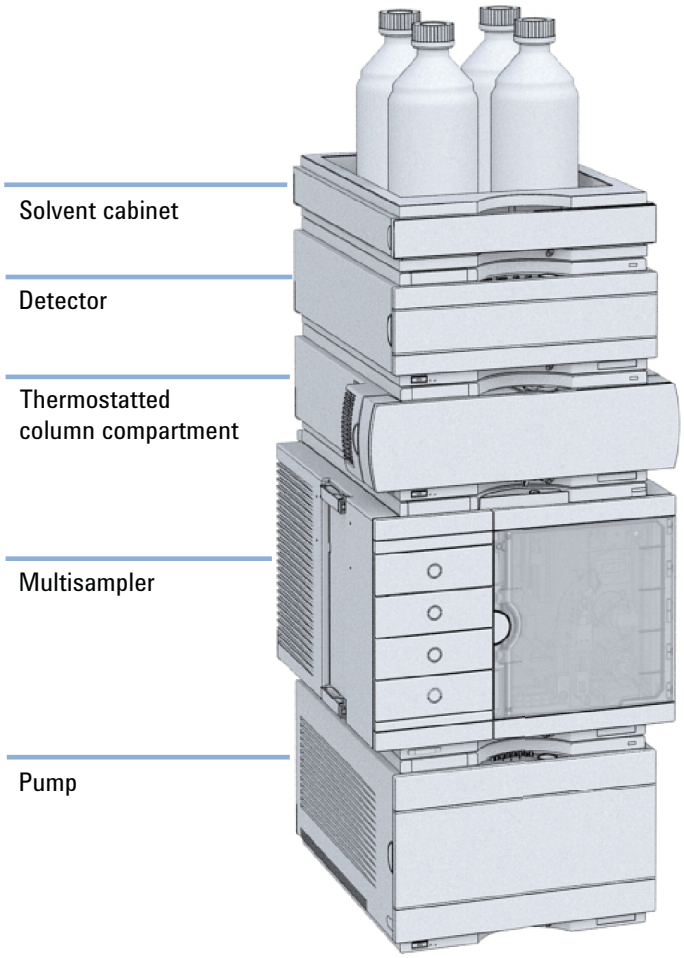


Figure 6 Example for a recommended stack configuration in a 1290 Infinity system