



HPLC System

Site Planning Guide

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This guide is for the site planner, the individual responsible for preparing the facility for the installation of the HPLC system.

For safety and regulatory information for ExionLC™ systems, refer to the *Hardware User Guide* for the system. For safety and regulatory information for other systems, refer to the documentation supplied by the manufacturer.

Customer Site Planner Responsibilities

Complete the [Site Planning Checklist on page 6](#), in consultation with Facilities and Services Personnel (electrical, ventilation, and information technology [IT]), and return it to the SCIEX FSE before the completion date. Refer to [Signoff on page 10](#).

Note: If the site preparation tasks are not complete when the SCIEX Field Service Employee (FSE) arrives, then the scheduled installation will be postponed.

Note: The FSE will follow up if the checklist is not received prior to the scheduled installation date.

- Verify that adequate space and the required shipping or receiving facilities are available. Refer to [Site Layout Requirements on page 11](#).
- Provide all required electrical receptacles. Refer to [Electrical Requirements on page 31](#).
- Provide and install all required vents and ventilation devices. Refer to [Ventilation and Waste Collection Requirements on page 36](#).
- Verify that the requirements for the operating environment are met. Refer to [Environmental Requirements on page 37](#).
- Provide all required solutions and laboratory equipment, including all fittings, and sample tubing for the liquid chromatography (LC) equipment, unless purchased from SCIEX. Refer to [Customer Supplied Solutions and Equipment on page 40](#).
- When the shipment arrives, inspect the packaging exterior for damage. If there is any damage, then note any issues on the delivery receipt and notify SCIEX immediately.
- Contact SCIEX Customer Service or the local FSE to schedule the installation.

FSE Responsibilities

Note: If the site preparation tasks are not complete when the SCIEX Field Service Employee (FSE) arrives, then the scheduled installation will be postponed.

- Review the checklist and discuss outstanding issues with the site planner.
- Unpack and set up the LC equipment.
- Test and qualify the system to the specifications in the *Installation Checklist and Data Log*.

Customer Familiarization

During installation, the FSE provides a system and software overview, reviews data, and provides some basic operator familiarization, using the *Customer Familiarization Checklist*.

Note: Online training is available at [SCIEXUniversity](#).

Technical Support

SCIEX and its representatives maintain a staff of fully-trained service and technical specialists located throughout the world. They can answer questions about the system or any technical issues that might arise. For more information, visit the SCIEX website at [sciex.com](#).

Site Planning Checklist

2

Customer Information

Contact name			
Organization			
Address			
City			
State/Province/Region		ZIP code/Postal code	
Country			
Telephone			
E-mail address			

Requirements

Site Layout Requirements

Refer to [Site Layout Requirements on page 11](#).

Requirement	Complete	N/A
The measured building clearances can accommodate the equipment and crate dimensions. If the requirements cannot be met, then contact a sales or field service representative.		

Electrical Requirements

Refer to [Electrical Requirements on page 31](#).

Requirement	Complete	N/A
Installation of electrical supplies and fixtures complies with local regulations and safety standards.		
One branch circuit is provided for the HPLC system with a mains supply outlet for each component of the system. <hr/> Note: Do not use extension cords.		
A 20 A (minimum) circuit breaker is provided for the LC components power connectors.		
(Optional) All LC components are connected to a high-capacity electrical surge suppressor.	○	○
The mains supply voltage does not fluctuate more than $\pm 10\%$ from the nominal voltage.		
If the voltage is not in the recommended range, then a power line regulator is available for the LC components.	○	○
The mains supply includes a correctly installed protective earth conductor.		
A qualified electrician has determined the appropriate mains supply configuration based on the system electrical specifications. Refer to System Electrical Specifications on page 32 .		

Ventilation and Waste Collection Requirements

Refer to [Ventilation and Waste Collection Requirements on page 36](#).

Requirement	Complete	N/A
Installation of plumbing and ventilation fixtures complies with local regulations and safety standards.		
Ventilation of the environment in which the HPLC system will be used complies with local regulations for laboratory environments and the air exchange rate is appropriate for the work performed.		
Primary and secondary waste containers are available to collect liquid waste. Note: Liquid waste containers must be positioned below and close to the liquid waste port to allow gravitational flow.		

Environmental Requirements

Refer to [Environmental Requirements on page 37](#).

Requirement	Complete
The altitude does not exceed 2000 m (6562 ft) above sea level.	
Temperature and humidity requirements have been met.	

BioSafety Requirements

Refer to [BioSafety Requirements on page 38](#).

Requirement	Complete	N/A
The site is not designated as BioSafety Level 3 (BSL-3) or BioSafety Level 4 (BSL-4).		

Computer and Network Requirements

Refer to [Computer and Network Requirements on page 38](#).

Requirement	Complete	N/A
A computer name is available.		
The default IP addresses and subnet masks are compatible with the customer LAN.		

Requirement	Complete	N/A
(Optional) An active, tested LAN connection is available.	<input type="radio"/>	<input type="radio"/>
Network hardware is compatible with an RJ45-type connector.		
If the network connection is more than 2 m (6 feet) from the system, a Category 5 RJ45 Ethernet cable of the required length is available.	<input type="radio"/>	<input type="radio"/>
If the system contains a VWD or other unsupported components, a GPIB or ADC card is available.	<input type="radio"/>	<input type="radio"/>

Solutions and Equipment Requirements

Refer to [Customer Supplied Solutions and Equipment on page 40](#).

Requirement	Complete	N/A
All of the required solutions and bottles are available.		

Product Familiarization

Requirement	Complete	N/A
An account has been obtained on sciex.com , and the online learning modules have been completed.		
System documentation has been obtained and reviewed.		

Comments and Exceptions

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Signoff

Site planner contact name		Completion date (yyyy-mm-dd)	
I acknowledge that all of the installation requirements, as specified in this document, have been met.			
FSE name		Return date (yyyy-mm-dd)	
FSE e-mail			

Site Requirements

A

Site Layout Requirements

[Return to checklist.](#)

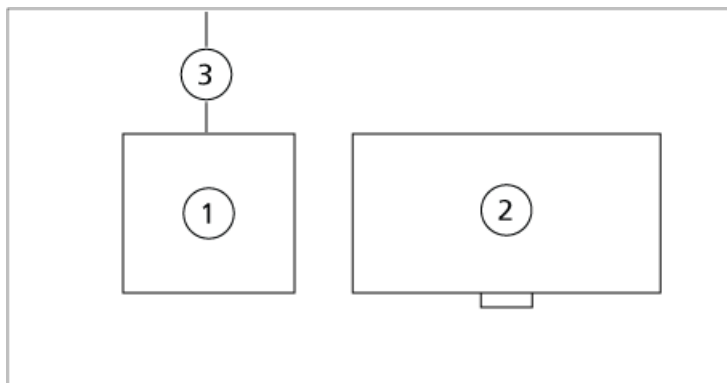
Laboratory Layout and Clearances

- Avoid installing the system beside heaters or cooling ducts, or in direct sunlight.
- Install the system away from vibrating equipment, such as refrigerators or centrifuges. The system must not share bench space with vibrating equipment.
- Do not install the system on a shelf. The system requires a table or bench that is strong enough to support the weight of the system components.
- Install the computer within 2 m (6 feet) of the instrument, with a LAN or RS232 cable.

Site Requirements

- Allow enough space for service access behind the system. For fixed bench configurations, a minimum of 1 m (40 inches) is required. For moveable bench configurations, a minimum of 0.3 m (12 inches) is required.

Figure A-1 Required Access Space Behind the HPLC Bench



Item	Description
1	HPLC table
2	Mass spectrometer
3	Distance to wall. Allow 1 m (40 inches) for fixed bench configurations or 0.3 m (12 inches) for moveable bench configurations.

Note: If the bench is moveable, then make sure that it is fixed during normal use.

- Allow 3 cm between modules when they are stacked side-by-side.
- Position the monitor, keyboard, and accessories to allow for proper ergonomics during use.
- Store chemicals in a secondary containment system at a convenient height for handling, preferably below eye level.
- (Recommended) Install the system on a moveable bench.

Module Stacking

[Return to checklist.](#)

Provide a bench for the HPLC system that can support the total weight of all modules and solvents, and that is stable and flat.

Refer to [Weights and Dimensions on page 26](#) for dimensions and weights.

Refer to [Figure A-2](#) to [Figure A-13](#) for example stacking configurations.

Note: Chemicals must be stored in a secondary containment system at a convenient height for handling, if possible below eye level.

CAUTION: Potential System Damage. Install and operate all of the HPLC system modules in a horizontal position. Operating a module on its side can impair the leak detection function and possibly cause a hardware failure within the module.

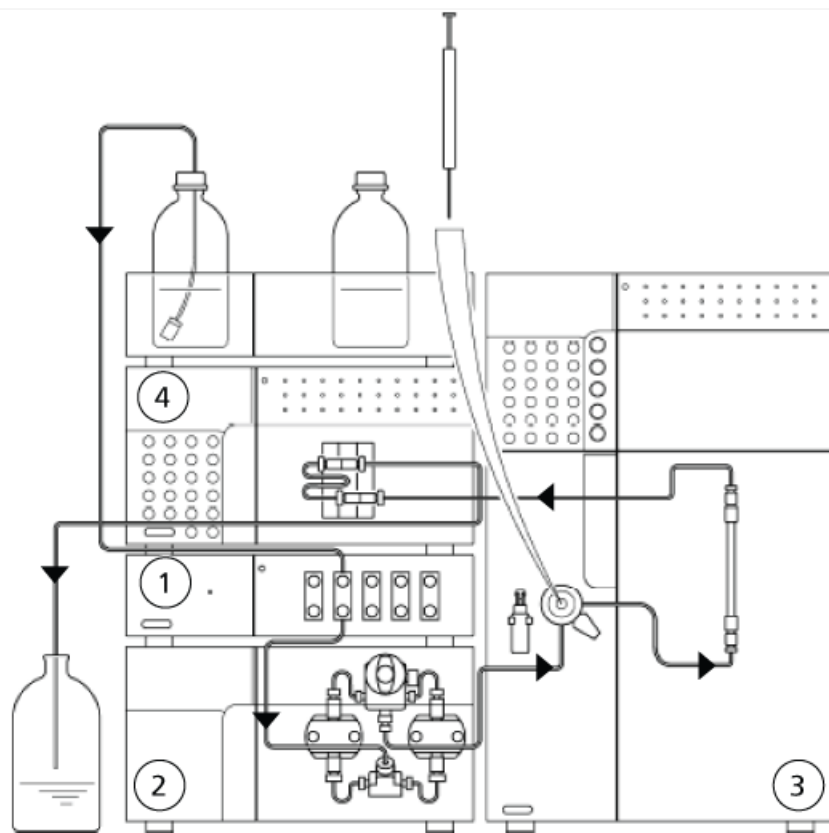
Note: The thermostatted versions of Agilent 1260 and 1290 autosamplers include the G1330A/B thermostat module. The thermostat module must be placed directly under the autosampler to be thermostatted. We recommend that the thermostat module be positioned as the bottom module of the stack, directly on the laboratory bench.

Note: For Agilent 1260 Infinity II and 1290 Infinity II systems, the autosampler cannot be installed directly on the bench. If the autosampler is going to be on the bottom of the stack, a base plate must be ordered (Agilent PN G1328-44121) to allow for proper routing and draining of the cooler condensation cooling.

Agilent systems with more than four modules excluding the degasser and the solvent tray require a multi-stack configuration, as recommended by Agilent.

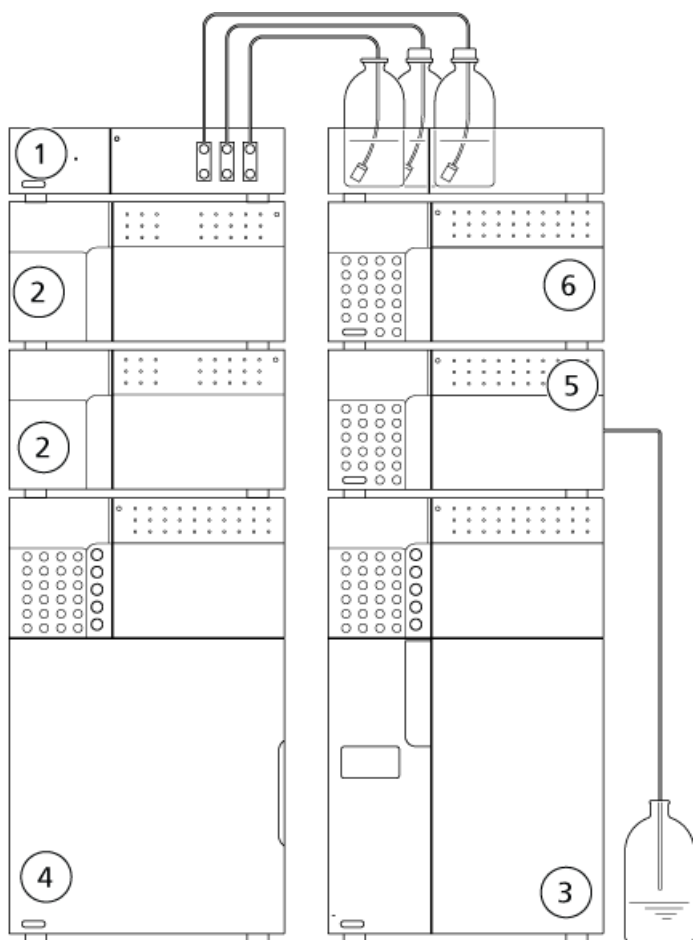
Site Requirements

Figure A-2 ExionLC™ and Shimadzu Systems: Isocratic System Layout



Item	Description
1	Degasser
2	Pump
3	Column oven
4	Detector

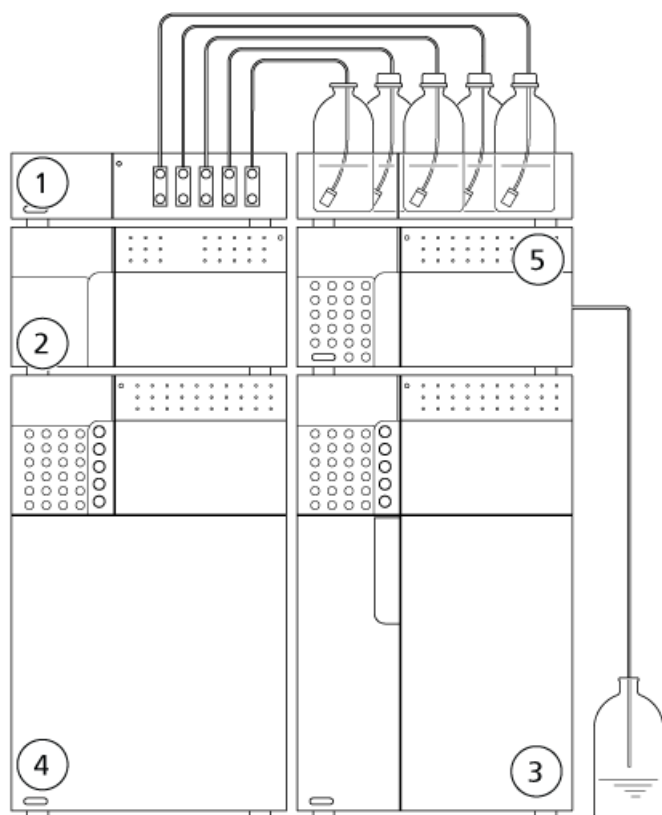
Figure A-3 ExionLC™ and Shimadzu Systems: High-Pressure Gradient System Layout



Item	Description
1	Degasser
2	Pump
3	Column oven
4	Autosampler
5	Detector
6	System controller

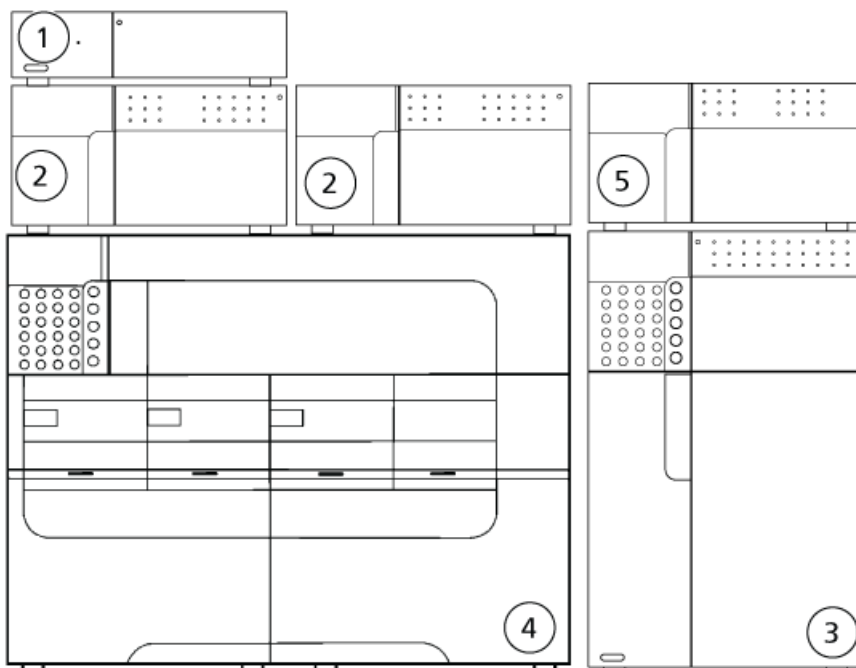
Site Requirements

Figure A-4 ExionLC™ and Shimadzu Systems: Low Pressure Gradient System Configuration



Item	Description
1	Degasser
2	Pump
3	Column oven
4	Autosampler
5	Detector

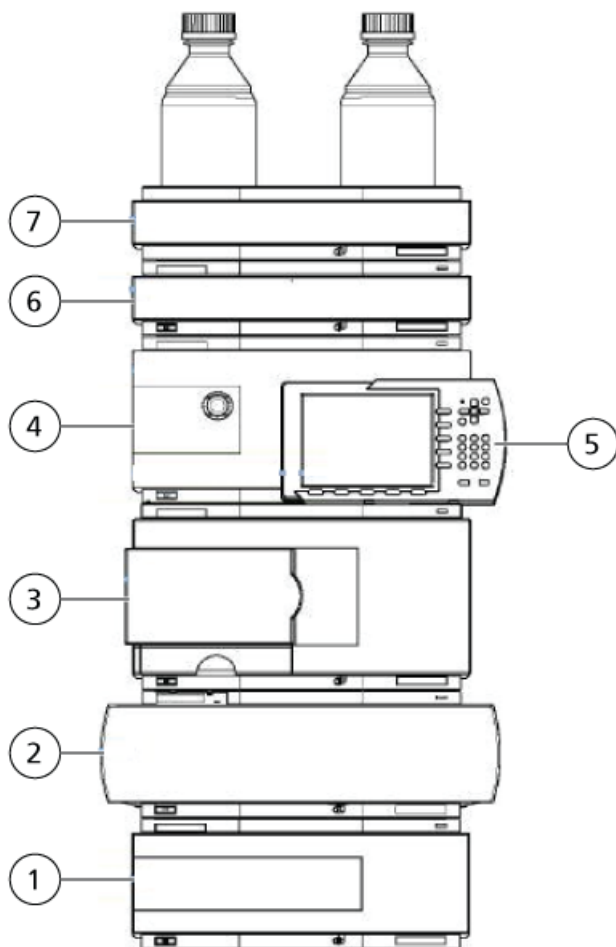
Figure A-5 ExionLC™ and Shimadzu Systems: Multiplate Sampler Configuration



Item	Description
1	Degasser
2	Pump
3	Column oven
4	Multiplate sampler
5	Detector

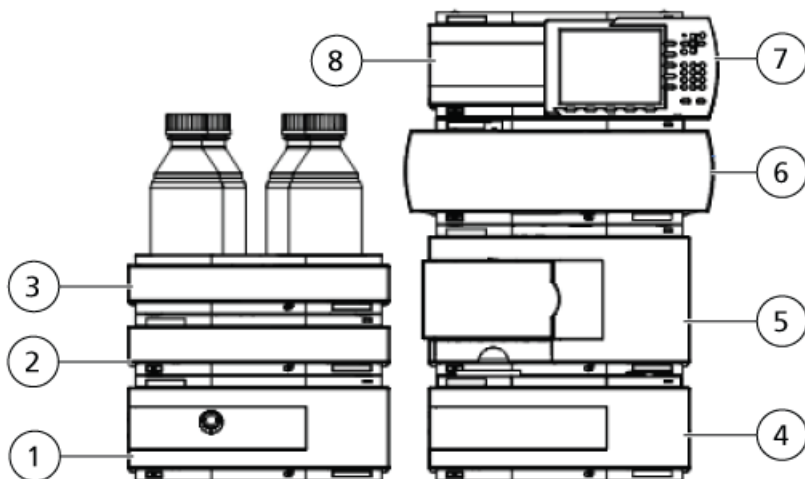
Site Requirements

Figure A-6 Agilent 1260 Stack: Configuration 1



Item	Description
1	Detector
2	Column compartment
3	Autosampler
4	Pump
5	Instant Pilot
6	Vacuum degasser
7	Solvent cabinet

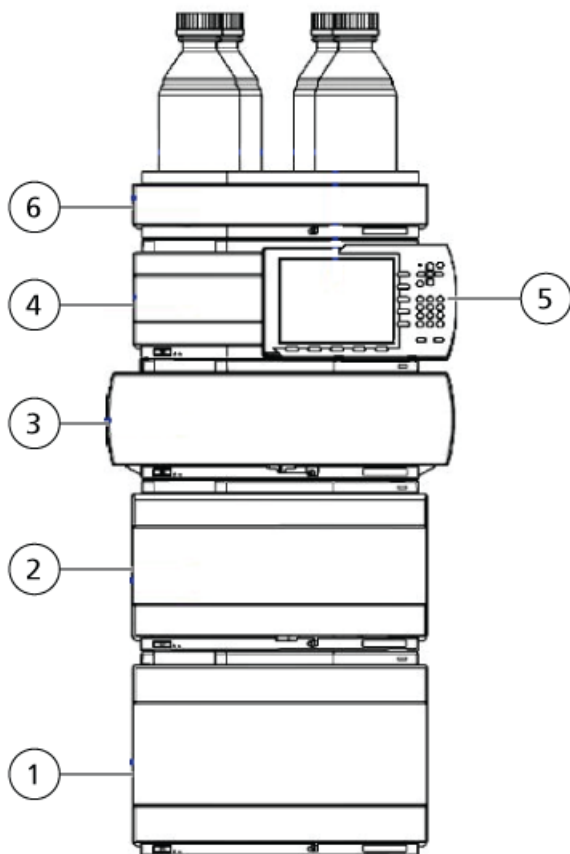
Figure A-7 Agilent 1260 Stack: Configuration 2



Item	Description
1	Pump
2	Vacuum degasser
3	Solvent cabinet
4	Thermostat
5	Autosampler
6	Column compartment
7	Instal Pilot
8	Detector

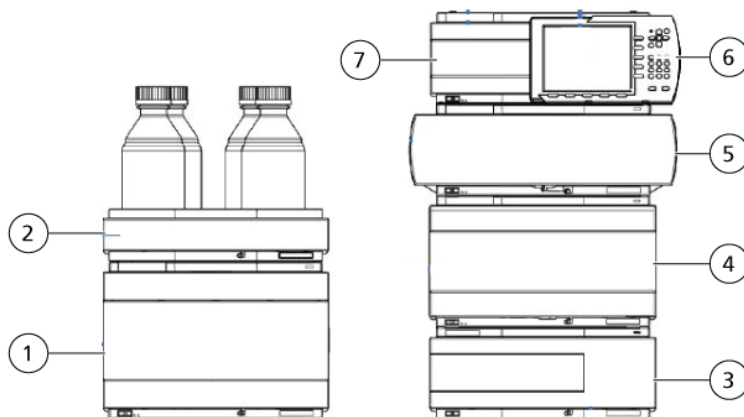
Site Requirements

Figure A-8 Agilent 1290 Stack: Configuration 1



Item	Description
1	Pump
2	Autosampler
3	Column compartment
4	Detector
5	Instant Pilot
6	Solvent cabinet

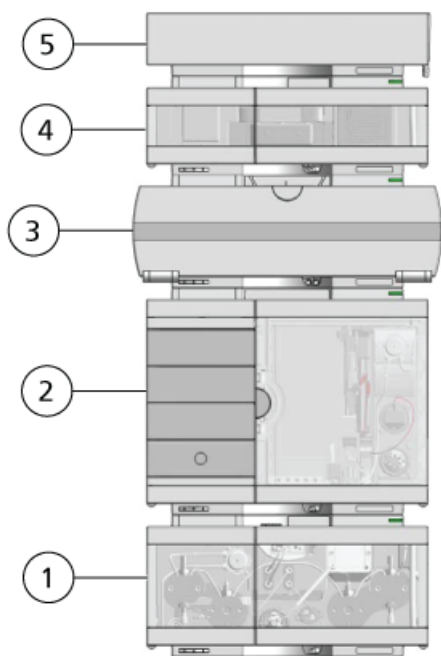
Figure A-9 Agilent 1290 Stack: Configuration 2



Item	Description
1	Pump
2	Solvent cabinet
3	(Optional) Thermostat for the ALS
4	Autosampler
5	Column compartment
6	Instant Pilot
7	Detector

Site Requirements

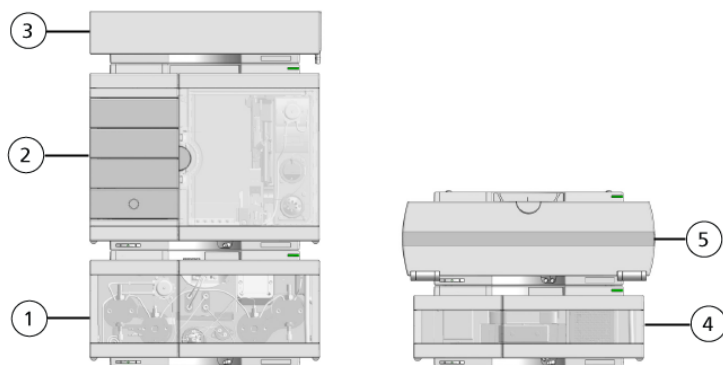
Figure A-10 Agilent 1260 Infinity II or 1290 Infinity II Stack: Configuration 1



Note: If the autosampler is going to be set on the bottom of the stack, then a base plate must be ordered (Agilent PN G1328-44121) to allow for proper routing and draining of the cooler condensation. The module cannot be installed directly onto the bench.

Item	Description
1	Pump
2	Autosampler
3	Oven
4	Detector
5	Solvent cabinet

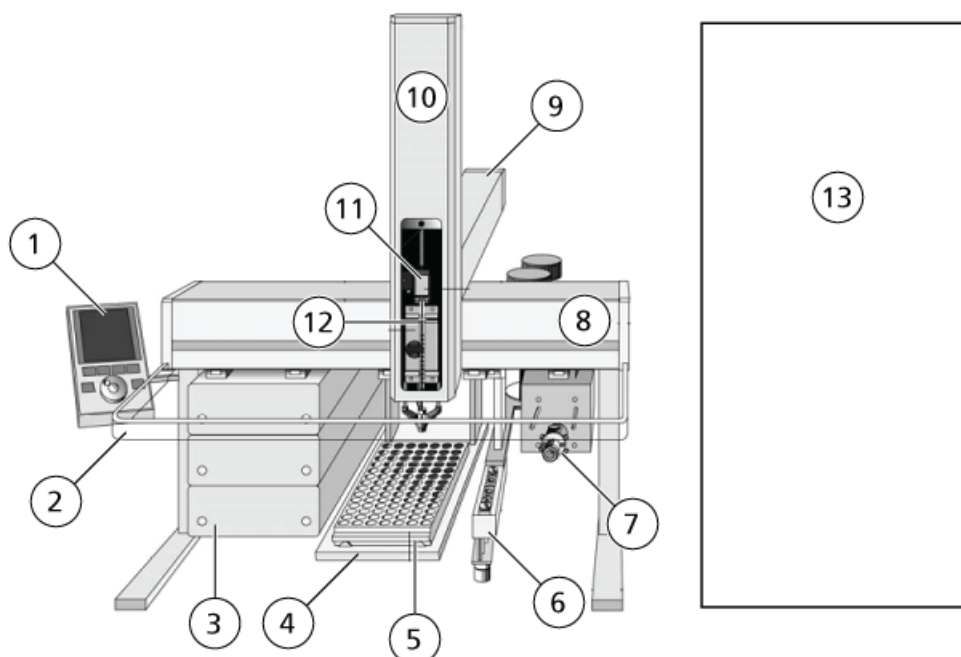
Figure A-11 Agilent 1260 Infinity II or 1290 Infinity II Stack: Configuration 2



Item	Description
1	Pump
2	Autosampler
3	Solvent cabinet
4	Detector
5	Oven

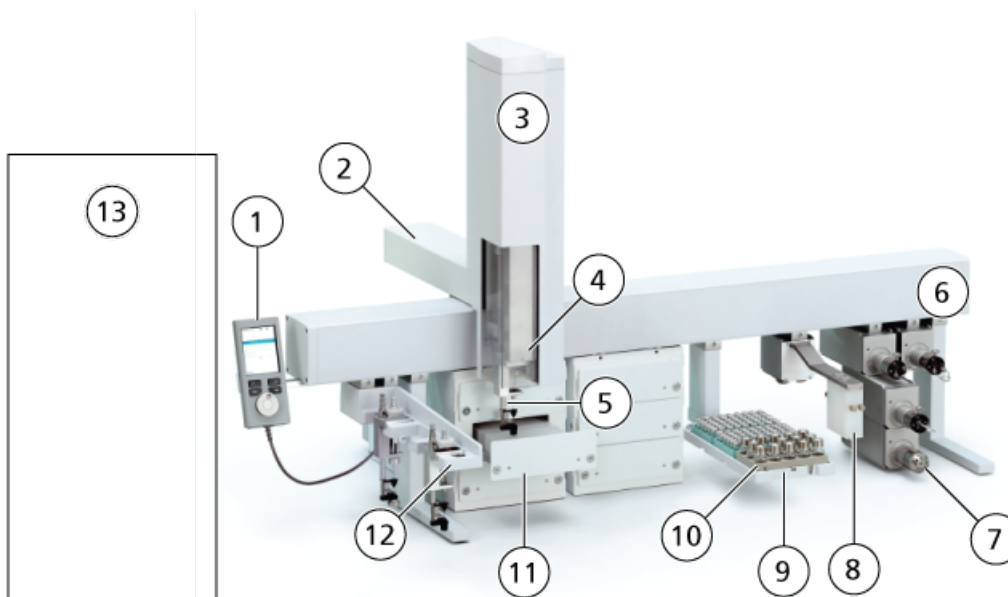
Site Requirements

Figure A-12 CTC PAL-xt System Configuration



Item	Description
1	Keypad terminal
2	Safety guard
3	Stack
4	Tray holder
5	Tray
6	Fast wash station
7	Valve drive
8	X-axis
9	Y-axis
10	Injection unit (Z-axis)
11	Plunger holder
12	Syringe and syringe adapter
13	HPLC system (ExionLC™, Agilent, or Shimadzu system)

Figure A-13 CTC PAL 3 System Configuration



Item	Description
1	Keypad terminal
2	Y-axis
3	Injection unit (Z-axis)
4	Plunger and plunger holder
5	Syringe holder
6	X-axis
7	Valve drive
8	Wash station
9	Tray holder
10	Tray
11	Stacks
12	Tool park station. Only available on the PAL 3 RTC, shown here.
13	HPLC system (ExionLC™, Agilent, or Shimadzu system)

Site Requirements

Note: The safety guard is not shown in [Figure A-13](#).

Weights and Dimensions

Refer to the following table for weights and dimensions and make sure that the system can be moved to the installation site. Make sure that the installation site can accommodate the equipment dimensions, weight, and associated clearance.

HPLC System Module	Height	Width	Depth	Weight
ExionLC™ Systems				
ExionLC™ 100 System	61 cm (24 inches)	41 cm (16.14 inches)	50 cm (19.69 inches)	58 kg (127.87 lbs)
ExionLC™ Controller	14 cm (5.52 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	5.5 kg (12.13 lbs)
ExionLC™ AC Autosampler	42 cm (16.34 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	30 kg (66.14 lbs)
ExionLC™ AC Column Oven - 100 V	42 cm (16.34 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	23 kg (50.71 lbs)
ExionLC™ AC Column Oven - 120 V	42 cm (16.34 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	23 kg (50.71 lbs)
ExionLC™ AC Column Oven - 240 V	42 cm (16.34 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	23 kg (50.71 lbs)
ExionLC™ AC Pump	14 cm (5.52 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	10 kg (22.05 lbs)
ExionLC™ AD Autosampler	42 cm (16.34 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	33 kg (72.7 lbs)
ExionLC™ AD Column Oven	21 cm (8.3 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	10 kg (22.05 lbs)
ExionLC™ AD Pump	14 cm (5.52 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	11.8 kg (26 lbs)
ExionLC™ Degasser	7 cm (2.9 inches)	26 cm (10.24 inches)	42 cm (16.53 inches)	5 kg (11.02 lbs)
ExionLC™ AD Multiplate Sampler	42 cm (16.34 inches)	54 cm (21.27 inches)	50 cm (19.69 inches)	61 kg (134.48 lbs)
ExionLC™ Rack Changer	42 cm (16.54 inches)	43 cm (16.73 inches)	50 cm (19.69 inches)	32 kg (70.55 lbs)
ExionLC™ UV Detector	14 cm (5.52 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	13 kg (28.66 lbs)

HPLC System Module	Height	Width	Depth	Weight
ExionLC™ PDA Detector	14 cm (5.52 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	12 kg (26.5 lbs)
ExionLC™ Solvent Selector Valve	11 cm (4.33 inches)	11 cm (4.33 inches)	25 cm (9.84 inches)	1.6 kg (3.5 lbs)
Shimadzu				
CBM-20A	14 cm (5.52 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	5.5 kg (12.13 lbs)
CTO-20A	42 cm (16.34 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	20 kg (44.09 lbs)
CTO-20AC	42 cm (16.34 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	23 kg (50.71 lbs)
CTO-30AC	21 cm (8.3 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	10 kg (22.05 lbs)
DGU-20A3/20A5	7 cm (2.9 inches)	26 cm (10.24 inches)	42 cm (16.53 inches)	5 kg (11.02 lbs)
FCV-11AL/11ALVP	11 cm (4.33 inches)	11 cm (4.33 inches)	25 cm (9.84 inches)	1.6 kg (3.5 lbs)
FCV-20AH2/20AH6	15 cm (6 inches)	11 cm (4.34 inches)	27 cm (10.63 inches)	5 kg (11.02 lbs)
LC-20AB/XR	14 cm (5.52 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	13 kg (28.66 lbs)
LC-20AD	14 cm (5.52 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	10 kg (22.05 lbs)
LC-20AT	14 cm (5.52 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	11 kg (25 lbs)
LC-30AD	14 cm (5.52 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	11.8 kg (26 lbs)
Rack Changer	42 cm (16.54 inches)	43 cm (16.73 inches)	50 cm (19.69 inches)	25 kg (55.12 lbs)
Rack Changer II	42 cm (16.54 inches)	43 cm (16.73 inches)	50 cm (19.69 inches)	32 kg (70.55 lbs)
SIL-20A/A XR	42 cm (16.34 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	27 kg (59.52 lbs)
SIL-20AC/AC XR	42 cm (16.34 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	30 kg (66.14 lbs)
SIL-30AC	42 cm (16.34 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	33 kg (72.7 lbs)
SIL-30ACMP	42 cm (16.54 inches)	54 cm (22 inches)	50 cm (19.69 inches)	61 kg (134.5 lbs)
SIL-HTA	42 cm (16.34 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	35 kg (77.16 lbs)
SIL-HTC	42 cm (16.34 inches)	26 cm (10.24 inches)	50 cm (19.69 inches)	40 kg (88.18 lbs)
SPD-20A/AV	14 cm (5.52 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	13 kg (28.66 lbs)
SPD-M20A	14 cm (5.52 inches)	26 cm (10.24 inches)	42 cm (16.54 inches)	12 kg (26.46 lbs)

Site Requirements

HPLC System Module	Height	Width	Depth	Weight
Agilent 1260				
G1310A / G1311A/B Isocratic / Quaternary Pumps	14 cm (5.52 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	11 kg (25 lbs)
G1312A/B Binary Pump	18 cm (7 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	15.5 kg (34 lbs)
G1376A / G2226A Capillary / Nano Pump	18 cm (7 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	17 kg (39 lbs)
G1322A / G1379A Degassers	8 cm (3 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	7.5 kg (16.5 lbs)
G1313A / G1329A/B / G1389A Autosamplers	20 cm (8 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	14.2 kg (31.3 lbs)
G1367A/B/C/D/E Well Plate Samplers	20 cm (8 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	15.5 kg (34.2 lbs)
G1330A/B ALS Thermostats	15 cm (5.52 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	18.5 kg (40.7 lbs)
G1316A/B Thermostatted Column Compartment	14 cm (5.52 inches)	41 cm (16 inches)	44 cm (17.4 inches)	10.2 kg (22.5 lbs)
G1314A/B/C Variable Wavelength Detector	14 cm (5.52 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	11 kg (25 lbs)
G1315A/B/C/D Diode-Array Detectors	14 cm (5.52 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	11.5 kg (26 lbs)
G1379B Micro Degasser	8 cm (3 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	7 kg (16 lbs)
Agilent 1260 Infinity II				
G7110B Isocratic Pump	18 cm (7.1 inches)	40 cm (15.75 inches)	44 cm (17.4 inches)	14 kg (31 lbs)
G7111B Quaternary Pump	18 cm (7.1 inches)	40 cm (15.75 inches)	44 cm (17.4 inches)	14.7 kg (32 lbs)

HPLC System Module	Height	Width	Depth	Weight
G7112B Binary Pump	18 cm (7.1 inches)	40 cm (15.75 inches)	44 cm (17.4 inches)	17.6 kg (38.8 lbs)
G7116A Multicolumn Thermostat	16 cm (6.3 inches)	43.5 cm (18.6 inches)	44 cm (17.4 inches)	12.5 kg (27.6 lbs)
G7117C DAD	14 cm (5.5 inches)	39.6 cm (15.6 inches)	43.6 cm (17.2 inches)	11.5 kg (25.4 lbs)
G7129A Vialsampler	32 cm (12.6 inches)	40 cm (15.75 inches)	47 cm (18.5 inches)	19 kg (41.9 lbs)
G7167A Multisampler	32 cm (12.6 inches)	40 cm (15.75 inches)	47 cm (18.5 inches)	22 kg (48.5 lbs)
G5654A Bio-Inert Quaternary Pump	18 cm (7.1 inches)	40 cm (15.75 inches)	44 cm (17.4 inches)	14.7 kg (32 lbs)
G5668A Bio-Inert Multisampler	32 cm (12.6 inches)	40 cm (15.75 inches)	47 cm (18.5 inches)	22 kg (48.5 lbs)
Agilent 1290				
G4220A Binary Pump	24 cm (9.3 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	21.8 kg (48 lbs)
G4226A Autosampler	20 cm (8 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	15.5 kg (34.2 lbs)
G1316C Thermostatted Column Compartment	14 cm (5.52 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	11.2 kg (24.7 lbs)
G4212A Diode-Array Detector	14 cm (5.52 inches)	35 cm (13.5 inches)	44 cm (17.4 inches)	11.5 kg (26 lbs)
Agilent 1290 Infinity II				
G7116B Multicolumn Thermostat	16 cm (6.3 inches)	47.2 cm (18.6 inches)	43.6 cm (17.2 inches)	12.5 kg (27.6 lbs)
G7117B DAD	14 cm (5.5 inches)	39.6 cm (15.6 inches)	43.6 cm (17.2 inches)	11.5 kg (25.4 lbs)
G7120A High Speed Pump	20 cm (7.9 inches)	39.6 cm (15.6 inches)	43.6 cm (17.2 inches)	21.0 kg (46.3 lbs)
G7167B Multisampler	32.4 cm (12.6 inches)	39.6 cm (15.6 inches)	46.8 cm (18.4 inches)	<ul style="list-style-type: none"> • Non-cooled: <22.0 kg (<48.5 lbs) • Cooled: <28.0 kg (<61.7 lbs)

Site Requirements

HPLC System Module	Height	Width	Depth	Weight
CTC				
PAL HTC-xt without accessories	65 cm (25.5 inches)	55 cm (21.5 inches)	39 cm (15.2 inches)	8 kg (18 lbs)
PAL HTS-xt without accessories	65 cm (25.5 inches)	83 cm (32.6 inches)	39 cm (15.2 inches)	10 kg (22 lbs)
PAL 3 RSI	54 cm (21 inches)	51 cm (20 inches)	85 cm (33.5 inches)	13.3 kg (29.3 lbs)
PAL 3 RTC	54 cm (21 inches)	51 cm (20 inches)	85 cm (33.5 inches) or 54 cm (21 inches)	13.3 kg (29.3 lbs)

Electrical Requirements

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WARNING! Electrical Shock Hazard. Use only qualified personnel for the installation of all of the electrical supplies and fixtures, and make sure that all of the installations adhere to local regulations and safety standards.



WARNING! Electrical Shock Hazard. Make sure that the system can be disconnected from the mains supply outlet in an emergency. Do not block the mains supply outlet.

- Provide a branch circuit with an AC mains supply outlet for each HPLC system module.
- Provide a 20 A (minimum) circuit breaker for each HPLC system power connector.
- Do not use extension cords.

Note: With the following exceptions, all HPLC system modules have automatic line-sensing with wide ranging power supplies that operate with line voltages in the range of 100 VAC to 240 VAC $\pm 10\%$. The ExionLC™ AC Column Oven and the Shimadzu CTO-20A/AC are rated for the nominal value shown in [System Electrical Specifications on page 32](#). The nominal voltage is manually selected for the ExionLC™ UV Detector and the Shimadzu SPD-20A/AV. If selector switches are used in the device, then the voltage selector switch must be inspected. The switch must be set to the correct voltage, and the correct fuse and power cable must be used.

Surge Suppression

Make sure that a compatible electromagnetic environment for the equipment can be maintained so that the device will perform as intended. If the power supply line is subject to high electrical noise, install a surge protector.

A configuration with a system controller, two pumps, a degasser, a cooled autosampler, a column oven, and a DAD detector, requires approximately 16.5 A.

Protective Earth Conductor



WARNING! Electrical Shock Hazard. Do not intentionally interrupt the protective earth conductor. Any interruption of the protective earth conductor creates an electrical shock hazard.

The mains supply must include a correctly installed protective earth conductor that must be installed or inspected by a qualified electrician before the system is connected.

System Electrical Specifications

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Note: Maximum Current assumes a voltage of 100 V.

HPLC System Module	Maximum Current (A)	Maximum Power Consumption (VA)
ExionLC™ Systems		
ExionLC™ 100 System	6	600
ExionLC™ Controller (using AC OUT)	4	400
ExionLC™ Controller (not using AC OUT)	1.0	100
ExionLC™ AC Autosampler	3.0	300
ExionLC™ AC Column Oven - 100 V	5	500
ExionLC™ AC Column Oven - 120 V	5	600
ExionLC™ AC Column Oven - 240 V	2.7	600
ExionLC™ AC Pump	1.5	150
ExionLC™ AD Autosampler	3.0	300
ExionLC™ AD Column Oven	3.0	300
ExionLC™ AD Pump	1.5	150
ExionLC™ Degasser	N/A	N/A
ExionLC™ Rack Changer	3.5	350
ExionLC™ AD Multiplate Sampler	5.5	550
ExionLC™ UV Detector	1.6	160
ExionLC™ PDA Detector	1.5	150
ExionLC™ Solvent Selector Valve	N/A	N/A
Shimadzu		
LC-20AD/AT	1.5	150
LC-30AD	1.5	150
LC-20AB	1.8	180
SPD-20A	1.6	160

HPLC System Module	Maximum Current (A)	Maximum Power Consumption (VA)
SIL-20A	1.0	100
SIL-20AC/SIL-30AC	3.0	300
SIL-30ACMP	5.5	550
SIL-HTA	1.5	150
SIL-HTC	3.0	300
SPD-M20A	1.5	150
CBM-20A (using AC OUT)	4	400
CBM-20A (not using AC OUT)	1.0	100
CTO-20A - 100 V	5	500
CTO-20A - 120 V	5	500
CTO-20A - 240 V	2.7	500
CTO-20AC - 100 V	5.5	550
CTO-20AC - 120 V	5.5	500
CTO-20AC - 240 V	2.7	500
CTO-30A	3.0	300
Rack Changer	0.5	50
Rack Changer II	3.5	350
FCV-11AL/11ALVP	N/A	N/A
FCV-20AH2/20AH6	1.0	100
DGU-20A3/A5	N/A	N/A
Agilent 1260		
G1310B Isocratic Pump	1.8	188
G1311B Quaternary Pump	1.8	188
G1312 Binary Pump	2.2	74
G4212B Diode Array Detector	1.6	130
G1314F Variable Wavelength Detector	2.2	85

Site Requirements

HPLC System Module	Maximum Current (A)	Maximum Power Consumption (VA)
G1316A Thermostatted Column Compartment	3.5	150
G1322A Degasser	N/A	30
G1379B Micro Degasser	0.3	30
G1329B Standard Autosampler	3.0	200
G1367E High Performance Autosampler	3.0	200
G4208A Instant Pilot	N/A	6
Agilent 1260 Infinity II		
G7110B Isocratic Pump	0.8	80
G7111B Quaternary Pump	0.8	80
G7112B Binary Pump	0.9	90
G7117C DAD	1.1	110
G7129A Vialsampler	3.5	350
G7167A Multisampler	1.8	180
G5654A Bio-Inert Quaternary Pump	0.8	80
G5668A Bio-Inert Multisampler	1.8	180
Agilent 1290		
G4220A Binary Pump	2.7	270
G4226A Autosampler	2	200
G1316C Thermostatted Column Compartment	1.5	150
G4212A Diode Array Detector	1.5	130
Agilent 1290 Infinity II		
G7116B Multicolumn Thermostat	1.5	150
G7117B DAD	1.1	110
G7120A High Speed Pump	2.1	210
G7167B Multisampler	1.8	180

HPLC System Module	Maximum Current (A)	Maximum Power Consumption (VA)
CTC		
PAL HTC-xt	6.3	250
PAL HTS-xt	6.3	250
PAL 3 RTC/RSI	6.3	250
Peltier Cooled Stack	5.55	240

Ventilation and Waste Collection Requirements

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Ventilation Requirements



WARNING! Radiation Hazard, Biohazard, or Toxic Chemical Hazard. Use only qualified personnel for the installation of plumbing and ventilation fixtures, and make sure that all installations follow local bylaws and regulations.



WARNING! Flammable Chemical, Biohazard, Radiation Hazard, and Toxic Chemical Hazard. Be sure to use the system in a well-ventilated laboratory environment in compliance with local regulations and with appropriate air exchange for the work performed. Solvents used in high performance liquid chromatography are flammable and toxic.



WARNING! Radiation Hazard, Biohazard, or Toxic Chemical Hazard. Make sure that the laboratory is equipped with adequate ventilation to maintain solvent vapor within local occupational exposure limits. The use of concentrated organic solvents as part of a rinse protocol might release solvent vapor in excess of occupational exposure limits.

The venting of fumes and disposal of waste must be in accordance with all federal, state, provincial, and local health and safety regulations, and the air exchange rate must be appropriate for the work performed.

Note: In the United States, OSHA 29 CFR Part 1910-1450 requires 4 to 12 air changes per hour in laboratories.

Waste Collection Requirements



WARNING! Radiation Hazard, Biohazard, or Toxic Chemical Hazard. Never collect or store waste in a glass container. Secure waste bottles in a low-density polyethylene safety container, with the cover fastened and the handles locked in the upright position. Wear appropriate eyewear, clothing, and gloves when handling reagent and waste bottles. Glass containers might break or shatter. Reagent and waste bottles might crack and leak.



WARNING! Radiation Hazard, Biohazard, or Toxic Chemical Hazard. Deposit hazardous materials in appropriately labeled waste containers and dispose of them according to local regulations.

CAUTION: Potential System Damage. Do not submerge the end of the drain tubing in the waste liquid in the waste container.

Liquid waste exits from the liquid waste port on the HPLC system. To collect the liquid waste, connect the supplied waste line from the instrument liquid waste port to a waste bottle. The waste bottles must be sealed, equipped with a chemical emissions (exhaust) filter, and compatible with the supplied waste tubing. The vessel location must allow the liquid to drain from the port by gravity.

Note: Liquid waste containers must be positioned below and close to the liquid waste port to allow gravitational flow.

Local regulations in some regions require that the waste bottle be installed inside a secondary container. We recommend the use of a secondary container in all environments.

The supplied tubing (outside diameter 10 mm, inside diameter 7 mm) must be used to vent vapors from the liquid waste collection vessel to a suitable fume hood or fume duct. Before connecting the liquid waste port to the liquid waste collection vessel, verify that:

- The shortest and the straightest possible run of polypropylene tubing is used. Tubing length should not exceed 2 m (6 ft).
- The tubing drops vertically and does not have low points where liquid can accumulate and block the flow.
- The tubing is securely fastened to the liquid waste port using the fasteners provided with the instrument. Do not use brass fasteners, which can corrode, and take care not to puncture the tubing.
- The tubing is securely attached to the waste-collection vessel.
- The tubing is kept away from sources of potential damage, such as heat, flame, or points of contact (rubbing) with other objects.

Environmental Requirements

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WARNING! Fire Hazard. Do not operate the system in the presence of an open flame, or in the same room as equipment that could potentially emit sparks.

Site Requirements

- Altitude not exceeding 2000 m (6562 feet) above sea level
- An ambient temperature of 4 °C to 35 °C (39.2 °F to 95 °F)
The rate of temperature change must not exceed 2 °C (3.6 °F) per hour for best possible baseline stability.
- Relative humidity from 20% to 85%, non-condensing , with these exceptions:
 - SPD-M20A: 45% to 85%, non-condensing
 - ExionLC™ AC and SIL-20A/AC/HTA/HTC: 80% or less, non-condensing

Note: If ambient temperature is 30 °C or greater, then relative humidity must be less than or equal to 70%.

Note: Do not install the system adjacent to heaters or cooling ducts, or in direct sunlight.

BioSafety Requirements

The site must not be designated BioSafety Level 3 (BSL-3) or BioSafety Level 4 (BSL-4). SCIEX does not install, service, or repair SCIEX systems in areas designated BSL-3 or BSL-4.

Computer and Network Requirements

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The computer is factory configured for the TCP/IP protocol. The product includes a fast Ethernet adapter (10/100baseT) with an RJ45 connector and one 2 m (6 ft) Ethernet cable.

- Obtain a network name for the computer.

Note: If the computer name must be changed after installation, then the Analyst® software must be reinstalled.

- Make sure that the default IP addresses for the modules are acceptable.

Table A-1 Default IP Addresses

Module	Default IP Address
ExionLC™ System	
ExionLC™ Controller or ExionLC™ CBM-Lite	192.168.200.99
ExionLC™ PDA Detector	192.168.200.98
Computer	192.168.200.100
Subnet mask	255.255.255.0
Prominence LC-20 HPLC System	
CBM-20A/CBM-20A Lite	192.168.200.99
PDA	192.168.200.98
Computer	192.168.200.100
Subnet mask	255.255.255.0
1260/1290 Series HPLC Systems	
System	192.168.254.11
DAD (not applicable for 1290 Infinity II)	192.168.254.11
Subnet mask	255.255.255.0

- (Optional) If the HPLC system computer will be connected to a LAN, then make sure that an active, tested LAN connection is in place before the scheduled installation date.

Note: The SCIEX FSE cannot configure the system to access a specific network.

- If the LAN connector on the computer is more than 2 m (6 ft) from the HPLC system, then supply a Category 5 RJ45 Ethernet cable of the required length.
- If required, for VWDs and other unsupported detectors, supply an ADC connection.

Customer Supplied Solutions and Equipment

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WARNING! Toxic Chemical Hazard. Refer to the chemical product *Safety Data Sheets* and follow all of the recommended safety procedures when handling, storing, and disposing of chemicals.

General Equipment and Consumables

- Powder-free gloves (neoprene or nitrile recommended)
- Lint-free wipes
- Safety glasses
- Laboratory coat
- Three sizes of micropipettors (calibrated) and tips:
 - 1 μL to 10 μL
 - 10 μL to 100 μL
 - 100 μL to 1000 μL
- Waste containers, 4 L and 1 L

Glassware

- 10 autosampler vials and caps
- 20 mL scintillation vials for dilutions
- Solvent bottles (4 or more, as needed)

Consumables and Reagents

- Glassware washing solutions
- MS grade methanol (4 L)
- MS grade isopropanol (IPA) (4 L)
- MS grade water (4 L)

Gases

- (Optional, if the system does not contain a degasser, and it contains the ExionLC™ Solvent Selector Valve, FCV-11ALvp, FCV-11ALS, and LPGE valve) Helium

Additional supplies and consumables might be necessary for routine operation of the HPLC system. Before the system is installed, contact the SCIEX sales representative to order these supplies.

Equipment Safety Categories

B

Description	Category
Equipment pollution degree	Pollution Degree 2
Mains supply transient overvoltage	Overvoltage Category II

Note: Environments with a Pollution Degree 2 rating include laboratories and sales and commercial areas.

For more information, refer to the International Electrotechnical Commission standards IEC 61010-1 and IEC 60364.