Agilent CrossLab
From Insight to Outcome

Agilent CrossLab Start Up Services

Agilent InfinityLab Pro iQ 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.

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Document Number: D0129562

Agilent

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 (i.e. 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.

Revision: A.01, Issued: 5 Jun 2025
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Important Customer Web Links

- To access Agilent training and education, visit http://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?** Flexible Repair Options | Agilent

Revision: A.01, Issued: 5 Jun 2025
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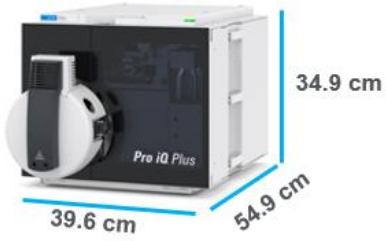
Site Preparation

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 Pro iQ Series dimensions represent the maximum instrument dimensions with Spray Chamber installed.
- At least 30 cm (1 ft.) to the left (source end) and the right of the instrument must be added to the dimensions to provide adequate instrument access and ventilation.
- The supporting surface must be relatively vibration free and capable of supporting the combined weight of the Agilent InfinityLab Pro iQ Series system and HPLC system.

Revision: A.01, Issued: 5 Jun 2025
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The following table provides dimensions and weight.

Instrument Description	Weight		Height		Depth		Width	
	Kg	lbs	cm	in	cm	in	cm	in
G6160B Pro iQ G6170A Pro iQ Plus	47	104	34.9	13.74	54.9	21.57	39.6	15.6
MS45 Rough Pump	33	72.7	29.7	11.6	41.8	16.5	22.8	8.9
Edwards nXR40i Dry Pump	27	60	30.1	11.9	47.9	19.9	21.7	8.5
ESI Source	1.7	3.7	23	9.2	13	5.1	18	7.1
APCI Source	1.7	3.7	23	9.2	13	5.1	18	7.1
MMI Source	2.29	5.1	23	9.2	13	5.1	18	7.1
AJS Source	1.7	3.8	23	9.2	11.5	4.5	18	7.1

Mounting different sources will not affect dimensions.

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

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 Agilent InfinityLab Pro iQ Series is specified for operation under the following conditions:
    - Indoor use
    - Constant temperature (< ±3 °C from calibration temperature).
    - Non-condensing, non-corrosive atmosphere.
- Altitude to not exceed 3,300 m up to 35 °C, not to exceed 3,700 m up to 30 °C.
    - NOTE: For LC/SQ models with Edwards nXR40i dry pump, altitude is not to exceed 3000m. Humidity is not to exceed 80% at 31°C reduced linearly to 50% at 40°C.

The following table may help you calculate the additional BTUs of heat dissipation from this new equipment.

Instrument Description	Operating Temperature Range °C (F)	Operating Humidity Range %	Typical Heat Dissipation BTU (MS + RP)
G6160B Pro iQ & G6170A Pro iQ Plus with MS45 rough pump	15 - 35 °C (59 - 95 °F)	< 85% RH @ 35 °C	2300 BTU/hr.
G6160B Pro iQ & G6170A Pro iQ Plus with Edwards nXR40i dry pump	15 - 35 °C (59 - 95 °F)	< 85% RH @ 35 °C	2420 BTU/hr.

*Calculated assuming running 8 hours per workday and remaining 16 hours standby (under constant vacuum, heaters lower but not off)

Revision: A.01, Issued: 5 Jun 2025
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Exhaust Venting Requirements

The Pro iQ Mass Detector generates exhaust fumes from the rough pump and drain bottle (from the spray chamber) that must be properly vented for supported instrument operation and compliance with laboratory safety requirements.

Special Notes

- Exhaust must be vented according to local Environmental Health and Safety regulations.
- Exhaust gases contain traces of solvent, sample and hydrocarbon pump fluid.
- Venting Rate is commensurate with nitrogen consumption rate.
- Two independent, negative pressure vents must be available with one for each of the exhaust sources: rough pump and Spray Chamber.
    - If only one vent is available, the exhaust line(s) from the rough pump must extend beyond the exhaust line from the spray chamber.
- If a negative pressure vent is not available, the length of the tubing from the rough pump and the drain bottle to the vent should each not exceed 460 cm (15 ft).
- Exhaust tubing is 1.27 cm (1/2") interior diameter (I.D.).
- Failure to vent the rough pump and spray chamber separately will void the warranty for the Pro iQ Series. Agilent service representatives will not install LC/SQ until an adequate exhaust system is present and functioning.

Model	Ventilation Draw Range	Minimum Flow	Maximum Flow
G6160B Pro iQ & G6170A Pro iQ Plus without AJS source	0.01 to 0.1 inches of water (0.025 to 0.25 mBar)	5 L/min (10.6 ft^3/hr)	Up to 16L/min (33.9 ft^3/hr)
G6170A Pro iQ Plus with AJS source	.01 to 0.1 inches of water (0.025 to 0.25 mBar)	1.0 L/min (2.1 ft^3/hr)	Up to 30L/min (63.6ft^3/hr)
Rough Pump	0.01 to 0.1 inches of water (0.025 to 0.25 mBar)	1.0 L/min (2.1 ft^3/hr)	Up to 3 L/min (6.4 ft^3/hr)

Revision: A.01, Issued: 5 Jun 2025
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Equipment positioning on the bench

Agilent recommends standard stacking configurations for your new system depending on the number and type of included modules. Please consider:

1. Equipment positioning on the bench
2. Waste liquid & gas management
3. Special safety precautions to be taken for stacking LC top of Pro iQ Series instrument.

- The LC modules can be stacked on top of the Pro iQ Series instrument as long as the height and weight constraints listed below are followed. Exceeding those constraints can represent a safety hazard.

- If stacking modules on top of the Pro iQ Series instrument, the LC detector must be the first module on top of the Pro iQ Series instrument. The next module up must be the column holder, whether stand-alone or part of the vial sampler. The pump must go on top, followed by the solvent tray.

- If stacking on top of the Pro iQ Series instrument, make sure that the leak drain connector on the lower right side of the Pro iQ Series instrument connects to a drain bottle.

- The Pro iQ Series instrument can hold a stack as heavy as 68 kilograms (150 lbs). Please refer to the table of Infinity II & Infinity III LC components or the specifications of individual modules you intend to stack on top to be sure that this weight is not exceeded.

- LC stacks (not including the solvent bottles) with a height of 74 cm (29 inches) were tested and shown to be stable on top of the Pro iQ Series instrument on a lab bench. Stacks taller than 74 cm (29 inches) were not tested and may be unstable and tip, which could cause injury, and are therefore not recommended.

Revision: A.01, Issued: 5 Jun 2025
Document Number: D0129562

Figure 1. Pro iQ Plus with MS Flex Bench configuration

Figure 2. Pro iQ dual stack configuration

Revision: A.01, Issued: 5 Jun 2025
Document Number: D0129562

Power Consumption

Special notes

- If a computer system is supplied with your instrument, be sure to account for those electrical outlets.
- The LC/SQ electrical outlets must have an isolated, noise-free electrical ground that is connected to the main earth ground for the facility. Noise-free typically means Total Harmonic Distortion (THD) more than 3% is not acceptable.
- Mains supply voltage tolerances must be between +10% and -5% of nominal line voltage.
- Electrical power for the LC/SQ may be delivered in either single-phase or 208-Wye configuration:

Configuration	Measurement	Nominal Voltage
Single Phase	Line to line	200, 220, 230, or 240 VAC
	Line to neutral	200, 220, 230, or 240 VAC
	Ground to neutral	< 0.5 V rms
208-Wye	Line to line (phase A to phase B)	208, 220 VAC
	Line to ground (phase A to ground)	120, 127 VAC
	Line to ground (phase B to ground)	120, 127 VAC

Instrument Description	Line Voltage and Frequency V, Hz	Number of required Outlets	Circuit Breaker Rating (A)	Maximum Power Consumption VA
G6160B Pro iQ G6170A Pro iQ Plus with ESI source	100-240 VAC @ 50/60 Hz	1	10A	500
G6160B Pro iQ G6170A Pro iQ Plus with MMI, APCI, or AJS source NOTE: All heated ion sources require to operate at high voltage and AJS source is only supported on G6170A instrument.	200-240 VAC @ 50/60 Hz	1	10A	500

Instrument Description	Line Voltage and Frequency V, Hz	Number of required Outlets	Circuit Breaker Rating (A)	Maximum Power Consumption VA
Agilent MS45 Rough Pump	100-240 VAC @ 50/60 Hz	1	10A	1200
Edwards nXR40i Dry Pump	100-127 VAC @ 50/60 Hz or 200-240 VAC @ 50/60 Hz	1	14A or 7A	1062

NOTE: the chassis ground still must be connected to earth ground for safety compliance, no matter the voltage source.

For example, installing a UPS that creates a floating ground is unacceptable – the earth/chassis ground must not be interrupted!

- Edwards nXR40i Dry Pump instructions.

Required Operating Supplies by Customer for Installation

Main Nitrogen Gas Supply Requirements

- Impurities from LN_2 dewar being oxygen only.
- "Hydrocarbon free" means < 0.1 PPM hydrocarbons with the remaining gas being oxygen and trace argon.
- Nitrogen pressure as measured at the LC/SQ inlet (not the supply side).
- Minimum nitrogen flow is always required to prevent air from entering the instrument.
- Main nitrogen supply fitting is a 1/4" push in fitting.

Model	Nitrogen Source	Nitrogen Purity	Pressure	Flow
G6160B Pro iQ & G6170A Pro iQ Plus without AJS source	LN_2 Dewar	≥ 99.5% and hydrocarbon free	5.5 - 6.8 bar (80 - 100 psi)	≥ 16 L/min Maximum
	N_2 Generator	≥ 95.0% and hydrocarbon free		
G6170A Pro iQ Plus with AJS source	LN_2 Dewar	≥ 99.5% and hydrocarbon free	5.5 - 6.8 bar (80 - 100 psi)	≥ 30 L/min Maximum
	N_2 Generator	≥ 95.0% and hydrocarbon free		

Required Operating Supplies by Customer for Installation

Special notes

- The *G6160B Pro iQ* model does not ship with solvents. Solvents are required to perform System Suitability Checkout.
- 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

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

Revision: A.01, Issued: 5 Jun 2025
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Item Description (including Dimensions etc.)	Vendor Part Number (if applicable)	Recommended Quantity
LCMS Grade Formic Acid kit	5191-4549	1
InfinityLab Methanol for LCMS (1L)	5191-5111	1
InfinityLab Acetonitrile for LCMS (1L)	5191-5101	2
InfinityLab Water for LCMS (1L)	5191-5151	2

Special Requirements and Other Considerations

Waste liquid and gas management

- Ensure the liquid waste containers are placed in secondary containers
- Agilent Infinity II Stay Safe Cap with Charcoal Filter recommended for large waste containers
- For recommended compatible nitrogen generators, contact your local sales representative.

Tools

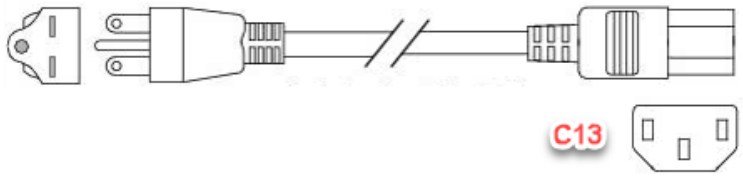
Your Agilent instrument comes with a few basic tools and consumables which are relevant to the specific configuration of your system.

Tools (provided)

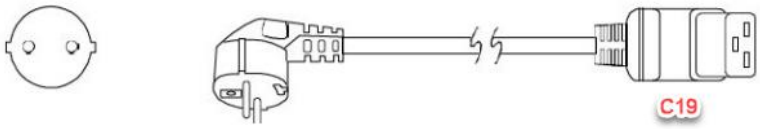
- Capillary Puller Tool
- Nebulizer Adjustment Kit
- InfinityLab System Toolkit

Power Cords

- C13 Power Cords are used on both LC/SQ instrument and MS45 rough pump.



- C19 Power Cords are used on Edwards nXR40i Dry pump.



Agilent p/n	Description
8120-0674	Power Cord TH/PH **C13** 250V 10A 2.5m (Thailand & Philippines)
8120-1378	Power Cord SA/AF/NA/AS **C13** 125V 10A 2.3m (US/Canada)
8120-3996	Power Cord SA/AF/NA/AS **C13** 250V 10A 2.3m (US /Canada)
8120-4416	Power Cord CH **C13** 250V 10A 2.5m (Switzerland)
8121-3112	Power Cord DK C13 250V 10A 2.5m (Denmark)
8121-3118	Power Cord IN/ZA **C13** 250V 10A 2.5m (India/S. Africa)
8121-3111	Power Cord IL **C13** 250V 10A 2.5m (Israel)
8121-3116	Power Cord AG **C13** 250V 10A 2.5m (Argentina)
8120-6978	Power Cord IT/CL **C13** 250V 10A 2.5m (Chile)
8121-3110	Power Cord GB/SG **C13** 250V 10A 2.5m (UK/Singapore)
8121-0723	Power Cord CN **C13** 250V 10A 2.5m (China)
8121-3121	Power Cord EU/RU/KR **C13** 250V 10A 2.5m (Europe/Russia/S. Korea)
G2025-60189	Power Cord, **C13** 200V Japan, 16 amp (Japan)
8121-2932	Power Cord TW **C13**M 250V 15A 2.5m (Taiwan)

Agilent p/n	Description
8121-1226	Power Cord EU/RU/KR C13 250V 10A 2m (Europe and South Korea)
8121-3115	Power Cord AU/NZ C13 250V 10A 2.5m (Australia/New Zealand)
8121-1809	Power Cord BR C13 250V 10A 2.5m (Brazil)
8120-4753	Power Cord JP/TW C13M 125V 13A 2.5m (Japan/Taiwan)
8120-8619	Power Cord AU/NZ C19 250V 15A 2.5m (Australia/New Zealand)
8121-1765	Power Cord CH C19 250V 16A 2.5m (Switzerland)
8121-1084	Power Cord IT/CL C19 250V 16A 2.5m (Italy/Chile)
8121-0710	Power Cord IN/ZA C19 250V 16A 2.5m (India/S. Africa)
8121-0161	Power Cord IL C19 250V 16A 2.5m (Israel)
8120-8620	Power Cord GB/IE/AF/AS C19 250V 13A 2.5m (UK/Ireland/Africa/Asia)
8121-1766	Power Cord CN C19 250V 16A 2.5m (China)
8121-1222	Power Cord EU/RU/KR C19 250V 16A 2.5m (Europe/Russia/S. Korea)
8121-1764	Power Cord TH/PH C19 250V 15A 2.5m (Thailand/Philippine)
8121-1787	Power Cord BR C19 250V 16A 2.5m (Brazil)
8120-8622	Cable-Assembly Power-Cord 3-Conductor 25 (Switzerland/Denmark)
8121-0675	Power Cord AG C19 250V 16A 4.5m (Argentina)
8121-1763	Power Cord JP/TW C19 125V 15A 2.5m (Japan/Taiwan)
8121-2969	Power Cord SA/AF/NA/AS C19 125V 15A 2.5m (S. America/Africa/N. America/Asia)

Service Engineer Review (Optional)

Service Engineer Comments

If the Service Engineer completes a review of the site preparation requirements with the customer, the Service Engineer should fill out 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 Review:
Service Engineer Name:	Customer Name:
Service Engineer Signature:	Total number of pages in this document:

Revision: A.01, Issued: 5 Jun 2025
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