Agilent CrossLab
From Insight to Outcome

Agilent CrossLab Start Up Services

Agilent G6475A and 6495D LC/TQ 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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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 (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
- For more details, please consult the **LC/MS Site Preparation Guide** (click to download zip file) also available on Agilent.com.

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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

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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 LC/TQ dimensions represent the maximum instrument dimensions with Agilent Jet Stream mounted*.
- At least 30 cm (1 ft.) to the left (source end) and 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 Triple Quad system.
- During service work, sufficient clearance around the instrument is required. At least 1 m (39 in) and 45 cm (18 in) on source side (left)

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The following table provides dimensions and weight requirements.

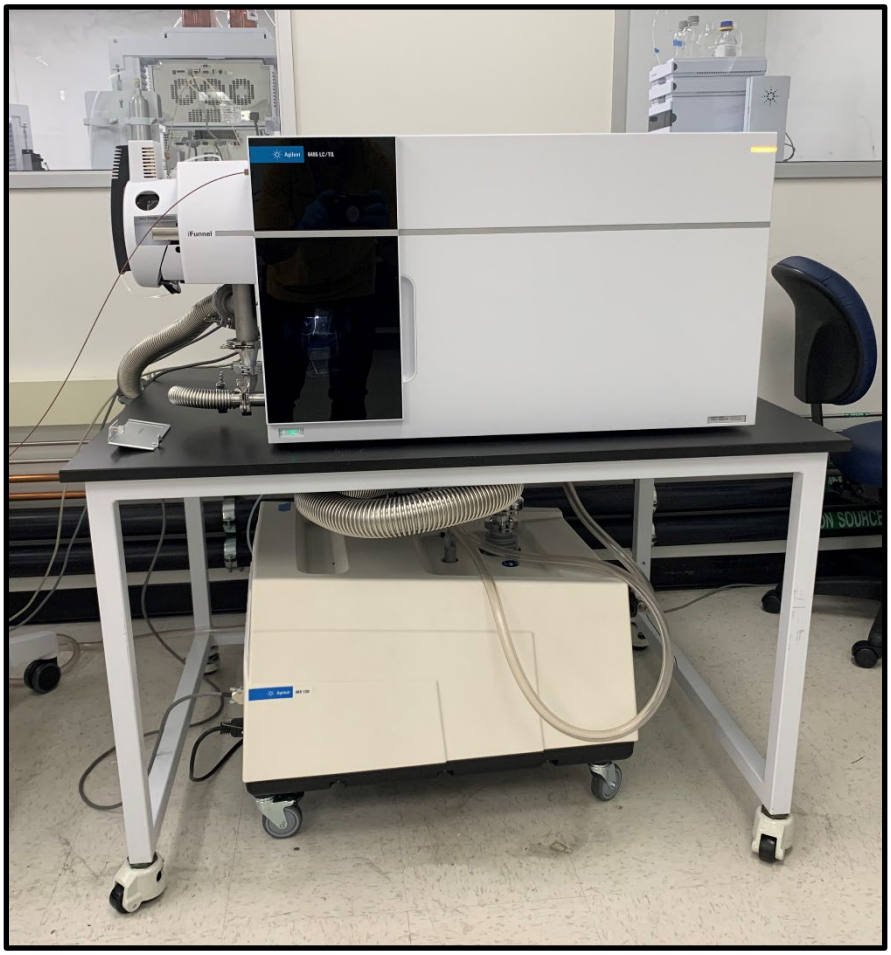
Instrument Description	Weight		Height		Depth		Width	
	Kg	lbs	cm	in	cm	in	cm	in
G6475A LC/TQ	117	258	47.5	18.7	77.3	30.4	84	33
G6495D LC/TQ	123	271	47.5	18.7	77.3	30.4	91.5	36
MS40+ Foreline Pump (6475A only)	33	73	22.8	9.0	41.8	16.5	29.7	11.7
MS120 Foreline Pump (6495D only)	100	220	53.9	21.2	75	29.5	51.6	20.3
Agilent Jet Stream	1.7	3.8	23	9.2	11.5	4.5	18	7.1
APCI Source	1.7	3.7	23	9.2	13	5.1	18	7.1
APPI 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
ESI Source	1.7	3.7	23	9.2	13	5.1	18	7.1
NSI Source	1.7	3.7	23	9.2	13	5.1	18	7.1

* Mounting different source will not affect dimensions

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

Equipment Positioning on the Bench

G6475A placed on MS Bench (G3215A) with MS40+ pump placed inside.



G6495D placed on Mass Spec Table (G3215A#001) with MS120 pump placed below.

Note: The MS120 pump is not compatible with the Mass Spec Bench (G3215A).

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 6400 Series LC/TQ 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.

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 %	Heat Dissipation BTU (MS + RP)
G6475A LC/TQ	15 - 35 °C (59 - 95 °F)	< 85% RH @ 35 °C	< 4950 BTU/hr
G6495D LC/TQ	15 - 35 °C (59 - 95 °F)	< 85% RH @ 35 °C	< 5850 BTU/hr

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Exhaust Venting Requirements

The LC/MS generates exhaust fumes from the foreline pump(s) 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: foreline pump(s) and Spray Chamber.
    - If only 1 vent is available, the exhaust line(s) from the foreline pump(s) required 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 foreline pump(s) and the drain bottle to the vent should each not exceed 460 cm (15 ft).
- Exhaust tubing is 1/2" interior diameter (I.D.).
- Failure to vent the foreline pump and spray chamber separately will void the warranty for the 6400 Series LC/TQ. Agilent service representatives will not install an Agilent 6400 Series LC/TQ until an adequate exhaust system is present and functioning.

Model	Combined Exhaust Venting Rate (Continuous)
G6475A LC/TQ	≥ 30 L/min Maximum (≥ 1800 L/hour) > 3 L/min Minimum
G6495D LC/TQ	≥ 50 L/min Maximum (≥ 3000 L/hour) > 9 L/min Minimum

Power Consumption

Special notes

- If a computer system is supplied with your instrument, be sure to account for those electrical outlets.
- The LC/TQ electrical outlets must have an isolated, noise-free electrical ground that is connected to the main earth ground for the facility. Noise-free typically mean 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 6400 Series Triple Quad LC/MS 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	Maximum Power Consumption VA	Number of required Outlets. (MS and RP)	Maximum Power Consumption W (MS + RP)
G6475A LC/TQ	200-240 VAC @ 50/60 Hz	15 A	2*	2200 (1000 + 1200)
G6495D LC/TQ	200-240 VAC @ 50/60 Hz	15A	2	3800 (1000 + 2800)

*Only one 200 -240 VAC outlet required if using step up transformer in applicable regions

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!

- Use the correct power cord. For more information regarding power cords, please see the **LC/MS Site Preparation Guide** also available on Agilent.com or see the Power Cord section..

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/MS inlet (not the supply side).
- Minimum Nitrogen Flow is required at all times to prevent air from entering the instrument.
- Main Nitrogen Supply fittings are 1/4" Swagelok.

Model	Nitrogen Source	Nitrogen Purity	Pressure	Flow
G6475A LC/TQ	LN_2 Dewar	≥ 99.5% and hydrocarbon free	5.5 - 6.8 bar (80 - 100 PSI)	≥ 30 L/min Maximum (≥ 1800 L/hour) > 3 L/min Minimum
	N_2 Generator	≥ 95.0% and hydrocarbon free		
G6495D LC/TQ	LN_2 Dewar	≥ 99.5% and hydrocarbon free	5.5 - 6.8 bar (80 - 100 PSI)	≥ 50 L/min Maximum (≥ 3000 L/hour) > 9 L/min Minimum
	N_2 Generator	≥ 95.0% and hydrocarbon free		

Collision Cell Nitrogen Gas Supply Requirements

- Nitrogen is the only supported Collision Cell gas.
- Splitting the Main Nitrogen Gas supply for use with the collision cell is not supported due to nitrogen purity requirements.
- Collision Cell gas supply fittings are 1/8" Swagelok.

Model	Nitrogen Source	Nitrogen Purity	Pressure	Flow
G6475A LC/TQ G6495D LC/TQ	High Pressure Cylinder	≥ 99.999% and hydrocarbon free (< 0.1 PPM hydrocarbons)	1 - 2 bar (15 - 30 PSI)	≥ 0.001 L/min (≥ 0.06 L/hour)

Special notes

- For information on Agilent LC/TQ consumables, accessories, and laboratory operating supplies, please visit: Agilent Triple Quadrupole LC/MS Supplies Quick Reference Guide
- For nitrogen gas regulators and gas fitting purchasing options, visit Gas Cylinder Supplies and GC Fittings on Agilent.com.

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

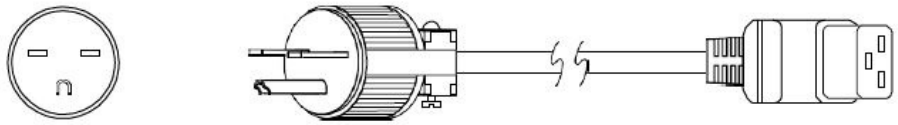
Your Agilent instrument comes with a few basic tools and consumables which are relevant to the specific configuration of your system.

Tools (provided)

- Capillary Puller Tool
- InfinityLab System Toolkit
- LC/MS Toolkit

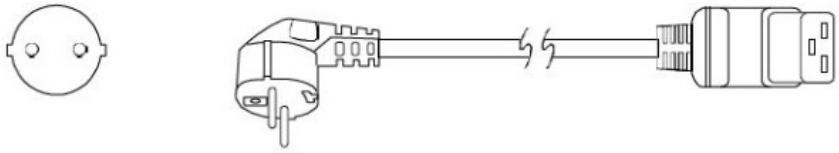
Power Cords

US and Canada, NEMA 6-15P (Agilent Part Number 8120-8623)



An alternative power cord (G1946-60066) with a NEMA L6-30P connector is available at extra cost. It is useful if a twist-lock plug is desired.

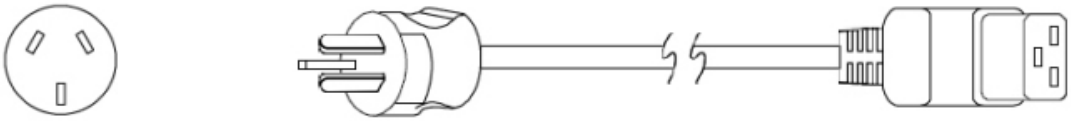
European Power, CEE 7/7 (Agilent p/n 8120-8621)



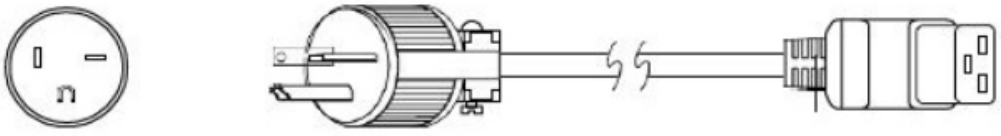
UK / Hong Kong / Malaysia / Singapore, BS 1363 (Agilent p/n 8120-8620)

Australia, (Agilent p/n 8120-8619)

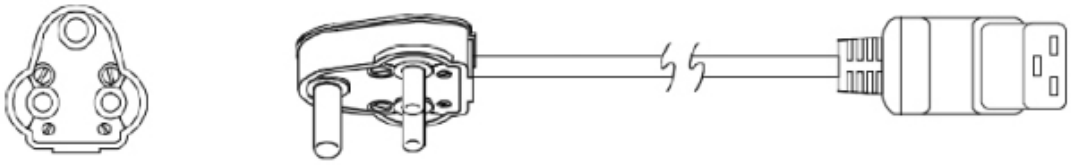
China, (Agilent p/n 8121-0070)



Japan, NEMA L6-20P (Agilent p/n 8120-6903)



Taiwan / South America, NEMA 6-20P (Agilent p/n 8120-6360)



Korea, (Agilent p/n 8121-1222)

(Not Shown)

Thailand, (Agilent p/n 8121-1301)

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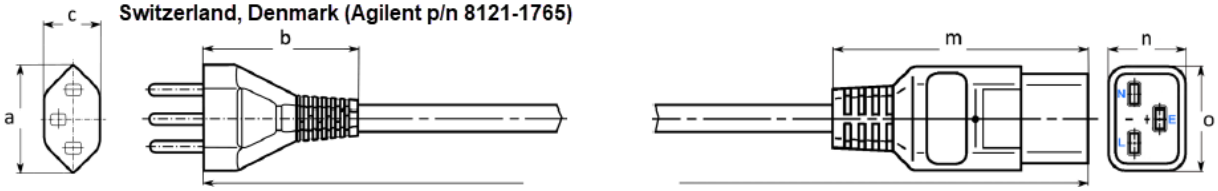
Switzerland, Denmark (Agilent p/n 8121-1765)



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 Review:
Service Engineer Name:	Customer Name:
Service Engineer Signature:	Total number of pages in this document:

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