Agilent CrossLab
From Insight to Outcome

Agilent CrossLab Start Up Services

Agilent Ultivo 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 Agilent LC/MS Site Preparation Guide (G6465-90006) 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.

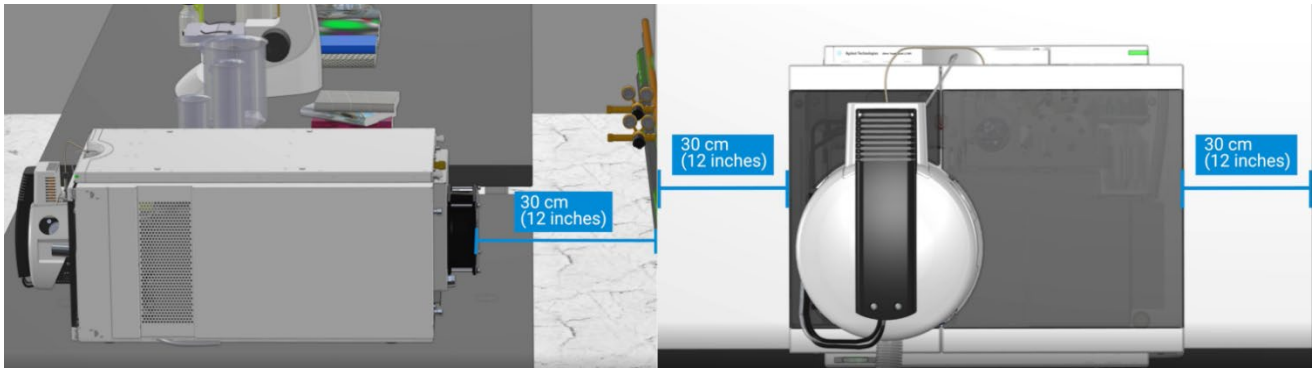
Special notes

- The following table provides dimensions and weight requirements.
- This product requires additional lifting assistance in order to be located in your lab due to its weight. Please discuss the arrangements for this activity with the service engineer prior to installation.

Instrument Description	Weight		Height		Depth		Width	
	Kg	lbs.	cm	in	cm	in	cm	in
G6465A or G6465B Ultivo LC/TQ	59.0	130.0	32.0	12.6	79.0	31.1	39.0	15.4
Agilent Jet Stream	1.7	3.8	23.0	9.0	11.5	4.5	18.0	7.0
G1948 Electrospray Source	1.7	3.8	17.0	6.6	9.5	3.7	18.0	7.0
G1947B APCI Source	1.7	3.8	23.0	9.0	13.0	5.1	18.0	7.0
MS40+ Foreline Pump	33.0	72.7	29.7	11.6	41.8	16.5	22.8	8.9

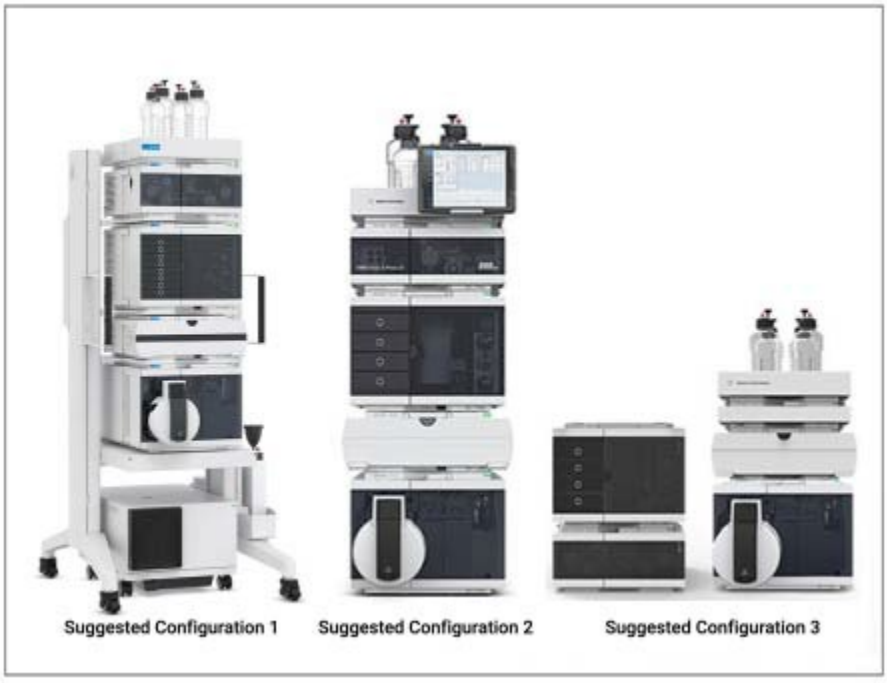
Equipment Positioning on the Bench

- There must be sufficient space around the instrument for air flow and access for maintenance.
    - At least 30 cm (approximately 12 inches) of space should be maintained behind the Ultivo LC/TQ (from rear fan).
    - At least 30 cm (approximately 12 inches) of space should be maintained on the left and right of the instrument for proper ventilation.



Recommended Configurations

- Agilent recommends three standard stacking configurations for your new system depending on the laboratory and configured LC modules. Please consider:
    - Equipment positioning on the bench
    - Liquid waste and gas management
    - Accessibility of solvent bottles and safety precautions
    - Suggested configuration 1 requires additional purchase of InfinityLab Flex Bench MS



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 Ultivo 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: Not to exceed 3,300 m up to 35 °C, not to exceed 3,700 m up to 30 °C.
- Specifications below are for the Ultivo LC/TQ system including the rough pump.
- Agilent recommends a maximum airborne particle density of 55 mg/m^3.
    - If you suspect your site exceeds this limit, contact your local Agilent Customer Service Organization. They can offer suggestions for reducing airborne dust.

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)
G6465A/B Ultivo LC/TQ	15 - 35 °C (59 - 95 °F)	< 85% RH @ 35 °C	< 4500 BTU/hr

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Exhaust Venting Requirements

The Ultivo LC/TQ generates exhaust fumes from the foreline pump and drain bottle (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.

Instrument Description	Combined Exhaust Venting Rate (Continuous)
G6465A/B Ultivo LC/TQ	< 30 L/min Maximum (≤ 1800 L/hour) >3 L/min Maximum

Power Consumption

Special notes

- If a computer system is supplied with your instrument, be sure to account for those electrical outlets.
- The Ultivo LC/TQ electrical outlet must have an isolated, noise-free electrical ground that is connected to the main earth ground for the facility.
- Mains supply voltage tolerances must be between +10% and -5% of nominal line voltage.
- Electrical power for the Agilent Ultivo LC/TQ may be delivered in either single-phase or 208-
- Wye configuration:

Configuration	Measurement	Nominal Voltage
Single Phase	Line to neutral	200, 208, 220, 230, or 240 VAC
	Line to Ground	200, 208, 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	Supply Circuit Rating (A)	Number of Required Outlets	Maximum Power Consumption VA
G6465A/B Ultivo LC/TQ	200 - 240 VAC @50/60 Hz	15	1	2700

- The chassis ground must still be connected to earth ground for safety compliance regardless of voltage source
    - For example, installing a UPS that creates a floating ground is not supported. The earth/chassis ground must not be interrupted.

Nitrogen Gas Supply Requirement

Special notes

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

Instrument Description	Nitrogen Source	Nitrogen Purity	Pressure	Flow
G6465A/B Ultivo LC/TQ	LN2 Dewar	≥ 99.5% and hydrocarbon free	5.5 - 6.8 bar (80 - 100 psi)	≤ 30 L/min Maximum (AJS) ≤ 18 L/min Maximum (ESI)
	Nitrogen Generator	≥ 95.0% and hydrocarbon free		

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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