Agilent CrossLab
From Insight to Outcome

Agilent CrossLab Start Up Services

Agilent 7250A GC QTOF 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.

Revision: A.04 Issued: February 2024
DE Document Number: DE21576111

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 product-specific site preparation or pre-installation manual.

Revision: A.04 Issued: February 2024
DE Document Number: DE21576111

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

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.

- This does not include the automated sampling devices which could be used on the system.
- Please note: the length of the vacuum hose is 130 cm or about 4.24 feet from the high vacuum pump to the foreline pump, while the length of the foreline pump power cord is 2 M or about 6.6 feet.
- A table must be large enough to support the mainframe and the size of the base plus additional accessories.
- The dimensions and weight of the instrument needs to be placed on a laboratory bench that is at least 101 cm (40 in) deep. The instrument requires a space of at least 40.0 cm (16 in) on both sides, and approximately 30 cm (~ 12 in) at the rear for the circulation of air, vacuum pump hose, and room for electrical connections.
- If the bench is to support a complete Agilent 7250 Series GCMS QTOF system make sure that the bench is designed to carry the total weight of all the components.
- Note the overall height of the QTOF is about 189 cm (74.5 in) with bench tables on average around 78.7 cm (31 in) tall which means 189 cm (QTOF) + 79 cm (Table) +30 cm (clearance) = 298 cm would be the minimum for room height; 298 cm (2.98 m) or 117 in (9.76 feet).
- Doorways must be minimum of 74cm / 29 inch wide to enable instrument mainframe to pass through. Mainframe cannot be tilted on an edge to get through a doorway.

Instrument Description	Weight		Height		Depth		Width	
	Kg	lbs.	cm	in	cm	in	cm	in
GC QTOF mainframe shipping container	175	385	94	37	99	39	132	52
GC QTOF Flight Tube shipping container	87	191	82	32	66	26	206	81
Accessories shipping container (varies – typically on a pallet)	varies	varies	varies	varies	varies	varies	varies	varies
GC-QTOF (assembled on the bench without GC)	152	335	189	74.5	100	39.5	94*	37*
GC-QTOF (assembled on the bench with 8890 GC)	152 +GC	335 +GC	189	74.5	100	39.5	125	49
*Measured at rear of instrument and includes cable loop to ion gauge Note: Doorways must be **minimum** of 74cm / 29 inch wide to enable instrument mainframe to pass through. Mainframe cannot be tilted on an edge to get through a doorway.								
DS202 – Foreline Pump - Wet	25	55	37	15	50	19.5	15	6
IDP-15 – Foreline Pump - Dry	34	75	38	15	51	20	51	20
IDP-15 – Foreline Pump – Dry shipping container	45	100	91	36	61	24	86	34
Workstation PC:			38	15	46	18	17	7
Monitor typical (varies):			51	20	20	8	49	19.5

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 site's ambient temperature conditions must be stable for optimum performance of the system's modules as specified in the "Environmental Specifications" section of the Site Preparation Manual. Temperature changes should not exceed 3°C from its intended set-point to achieve best possible baseline stability. Higher variations will result in higher signal drift and wander of the baseline.

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)
7250 Series GC/MS	15 to 35 °C	20% - 80%	6200 BTU / hour

Exhaust Venting Requirements

The 7250 Series GC/MS System foreline pump exhaust is recommended to be vented outside of the laboratory environment. Exhaust vent system should not be part of an environmental control system that recirculates air inside of a building. Exhaust venting requirements need to comply with all local environmental and safety codes. If the exhaust is non-toxic then an oil mist filter should be used on the foreline pump exhaust.

1. A 6-meter (20ft.) length (cut to length for the location of the instrument) of 1/2 in id PVC/vinyl tubing is recommended for venting the foreline pump exhaust. This is sufficient for two three-meter (10-foot lengths).
2. The foreline pump exhaust should not be shared with exhaust tubing from another instrument. Separate ½ inch hose barbs are required to connect the tubing to the exhaust vent.

Power Consumption

Special notes

- If a computer system is supplied with your instrument, be sure to account for those electrical outlets.

Instrument Description	Line Voltage and Frequency V, Hz	Maximum Power Consumption VA
7250 Series GC QTOF	200-240VAC (-10% / + 5%) 50/60 Hz ± 5%	1800VA (1200VA for foreline pump only)
Workstation PC system (dual monitor, CPU, optional printer)	120VAC (-10% / + 5%), 50/60 Hz ± 5%	1000VA
	200-240VAC (-10% / + 5%), 50/60 Hz ± 5%	1000VA

Item Description (including Dimensions etc.)	Recommended Quantity
8120-6360	Power Cord, Taiwan/S America, C19, 20A
8120-6903	Power Cord, Japan, C19, 20 amp
8120-8619	Power Cord, Australia, C19, 16 amp
8120-8620	Power Cord, GB/HK/SG/MY, C19, 13 amp
8120-8622	Power Cord, Swiss/DK, C19, 16 amp
8121-0070	Power Cord, China, C19, 15 amp, Fast
8121-0161	Power Cord, Israel, C19, 16 Amp
8121-0675	Power Cord, Argentina, C19, 16 amp
8121-0710	Power Cord, India/S.Africa, C19, 15 Amp
8121-1222	Power Cord, Europe + S Korea, C19, 15A,250V
8121-1301	Power Cord, Thai 220V, 15 A, 1.8M, C19
8121-1787	Power Cord, Brazil, C19, 250V Max
8121-0075	Power Cord, US 240V, C19, 15 amp
8120-0674	Power cord - Thailand and Philippines
8120-1369	Power Cord, Australia/NZ, C13, 10 amp
8120-2104	Power Cord, Switzerland, C13, 10 amp
8120-3997	Power Cord, DK/Greenland, C13, 10 amp
8120-4211	Power Cord, India/S Africa, C13, 10 amp
8120-5182	Power Cord, Israel, C13, 10 amp
8120-6869	Power Cord, Argentina, C13 250V 10A RA/3
8120-6978	Power Cord, Chile, C13, 10 amp
8120-8705	Power Cord, GB/HK/SG/MY, C13, 10 amp
8121-0723	Power Cord, China, C13, 10 A, 250V
8121-1226	Power Cord, Europe + S Korea C13, 10A, 250V
8121-1635	Power cord - Taiwan
8121-1638	Power cord - Cambodia
8121-1809	Power Cord, Brazil, C13, 250V Max
8120-1378	Power Cord C13 125V 10A 5-15P 498G US
8120-4753	Power Cord, Japan, C13, 125V

Part Number	Line Voltage Power Cords for the Switch (C7)
8120-6313	Power Cord, US, C7, 125V,2.5A, 1-15P Plg
8120-8336	Power Cord, Japan, 2- wire, C7,125V,7A
8120-8337	Power Cord, Australia, 2 wire
8120-8340	Power Cord, Europlug, C7, 250V Max, 2.5A
8120-8346	Power Cord, China, 2 wire
8120-8420	Power Cord Korea
8120-8421	Power Cord India / South Afri
8120-8452	Power Cord South America
8120-8719	Power Cord, UK
8120-8367	Power-Cord OPT-950 2-COND 1.8-M-LG

Required Operating Supplies by Customer for Installation

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

Item Description (including Dimensions etc.)	Vendor's Part Number (if applicable)	Recommended Quantity
Analytical Table	www.onepointesolutions.com	1
H-31" D-40" W-96"	www.ChemTops.com	
Noise Chamber for foreline pumps, coasters		
Computer Table (if table is same depth then they can be placed next to each other)	www.onepointesolutions.com	1
H-31" D-40" W-36"	www.ChemTops.com	
Monitor support rack and Keyboard rack, coasters		
Table is just large enough to hold GC QTOF and GC.	Mass Spec Bench, G3215A	2

Other / Special Requirements

Gases are supplied by tanks, internal distribution system, or gas generators. Tank supplies require two staged, pressure regulation.

To connect tubing to the supply, it must have one 1/8-inch Swagelok female connector for each gas. Make sure that your regulator has the appropriately sized adapter to end with a 1/8-inch Swagelok female connector. (The URL of Swagelok's web site is http://www.swagelock.com to help assist is finding connectors.) It is recommended two (2) step/stage regulators be used with 1/8" size outlets.

7250 Series Gas Flow Limitations

Feature	7250 Series
High Vacuum Pump Type 1	Split-Flow Turbo
High Vacuum Pump Type 2	Turbo
High Vacuum Pump Type 3	Turbo
Carrier Gas Optimal gas flow ml/min	1.0 – 1.5
Carrier Gas Max recommended gas flow, ml/min	2.0
Carrier Gas Max gas flow, ml/min (a)	2.4
Collision Cell Gas Flow Rate (Nitrogen/Helium – via CC EPC module)	5 ml/min
Nitrogen Purging (Nitrogen – minimum 80 psi)[1]	Up to 10 l/min
Electronics Cooling	2-3 l/min
Venting Flight Tube	2-3 l/min
Fast Vent Purge	2-3 l/min
Max column id	0.32mm (30m)

a Total gas flow into the MS: column flow plus reagent gas flow (if applicable)

1. Purity specification given is the minimum acceptable purity. Major contaminates can be water, oxygen, or air.
2. Pre-cleaned 1/8" copper tubing and 1/8-in Swagelok® fittings are supplied as part of the ship kit to connect the collision cell gas to the collision cell inlet fitting.
3. Never use liquid thread sealer to connect fittings.

7250 Series Carrier Gas

Carrier and reagent gas requirements	Typical pressure range (psi)	Typical flow (ml/min)
Helium (required)	50 to 80	20 to 100 (Column and split flow)
Methane Reagent Gas (required for CI operation)	15 to 25	1 to 2
Isobutane reagent gas (optional)	15 to 25	1 to 2
Ammonia reagent gas (optional) (not for use with IDP-15 rough pump)	5 to 8	1 to 2
Carbon dioxide reagent gas (optional)	15 to 25	1 to 2
Hydrogen	Not supported	Not supported

7250 Series Collision Cell Gases

Carrier and reagent gas requirements	Typical pressure range (psi)	Typical flow (ml/min)
Helium (required) via GC EPC CC Module	50 to 80	4
Nitrogen (required) via GC EPC CC Module	50 to 80	1

Gas Selection

Agilent recommends that carrier and detector gases be 99.9995% pure. Air needs to be zero grade or better. Agilent also recommends using traps to remove hydrocarbons, water, and oxygen. Please note: hydrogen must NOT be used as carrier gas on GC/QTOF system.

7250 Series Gases Purity

Carrier and reagent gas requirements	Purity	Note
Helium (Carrier)	99.9995%	hydrocarbon free
Nitrogen (Collision Cell via GC EPC)	99.999%	Research or SFC grade
Nitrogen Purging (Nitrogen – minimum 80 psi, up to 10l/min)	95.0 % or better	Hydrocarbon and water free, can be supplied by N2 gas generator, house nitrogen system, or liquid N2 Dewar

Carrier and reagent gas requirements	Purity	Note
Methane Reagent Gas (required for CI operation)	99.999%	Research or SFC grade
Isobutane reagent gas (optional)	99.99%	Instrument grade
Ammonia reagent gas (optional) (not for use with IDP-15 rough pump)	99.999%	Research or SFC grade
Carbon dioxide reagent gas (optional)	99.999%	SFC grade

Remote Diagnostics

Easy access to diagnostic information and to the system operator helps our service engineers diagnose problems or share information. We recommend these features to help support your new system:

1. A LAN connection for the Data Acquisition and Data Analysis PC is recommended to provide remote diagnostics capability for the 7250 Series GC/MS System.

2. A phone line close to the instrument is strongly recommended for communication with the system operator.

Other Considerations

Basic Tools

Your GC-QTOF comes with a few basic tools and consumables depending on the specific inlet and detector that you ordered. Here is a general list which one will get with the instruments or should have on-hand.

Tool or consumable	Used for
Inlet wrench	Replacing inlet septa and liners.
T10 and T20 Torx wrenches	Remove tray. Remove covers to access EPC modules, traps, and possible leaks.
Column cutter	Column installation.
1/8-inch Tee, Swagelok, brass	Connect gas supplies
1/8-inch nuts & ferrules, Swagelok, brass	Connect gas supplies

Tool or consumable	Used for
1.5 mm and 2.0 mm hex driver	Source maintenance (disassembly)
Tool bag	Used to hold GC and MS tools
Q-Tips	Used to clean source parts
Cloths	Used to keep surfaces clean and parts clean
Gloves	Used to reduce contamination on parts GC and MS

MS Maintenance supplies	
Tool or consumable	**Used for**
Abrasive paper, 30 µm	5061-5896
Alumina powder	393706201
Cloths, clean (package of 15)	05980-60051
Cloths, cleaning (package of 300	9310-4828
Cotton swabs (package of 100)	5080-5400
Foreline pump oil, Inland 45	6040-0834
Gloves, clean, large	8650-0030
Gloves, clean, small	8650-0029
Grease, Apiezon L, high vacuum	6040-0289
IDP-15 Tip Seal Maintenance Kit (Tip Seal, Cloth, Scouring Pad, Swab, Gloves, Filter)	5190-9613

Blank Ferrules – Standard connectors	
Blank, graphite-vespel	5181-3308

Ferrules for GC/MS interface – Standard connectors	
0.3-mm id, 85% Vespel 15% graphite, for 0.10-mm id columns	5062-3507
0.4-mm id, 85% Vespel 15% graphite, for 0.20-mm id and 0.25-mm id columns	5062-3508
0.5-mm id, 85% Vespel 15% graphite, for 0.32-mm id columns	5062-3506

Ferrules for GC/MS interface – Finger Tight connectors	
0.4-mm id, 85% Vespel 15% graphite, for 0.10 to 0.25-mm id columns, short, 10/pk	5181-3323
0.5-mm id, 85% Vespel 15% graphite, for 0.32-mm id columns, short, 10/pk	5062-3514

Miscellaneous parts and samples	
Filament assembly, LE-EI	G3850-60021
Octafluoronapthalene (OFN), 1 pg/ul	5188-5348
Octafluoronapthalene (OFN), 100 fg/ul	5188-5347
Perfluorotributylamine (PFTBA) sample kit	05971-60571
Sample, evaluation, hydrocarbons, Evaluation Test Mix (Eval A, Eval B, Eval C)	05970-60045

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. Both the Service Engineer and the customer should complete the Site Verification section below.

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: