



## Agilent GC, MS, and ALS

### Installation Checklist

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This checklist is designed to help you correctly install your GC, 5975 MSD, 5977 MSD, 7000 Triple Quad GC/MS, or 7200 Accurate-Mass Q-TOF MS (referred to as MS in this document) and ALS, and have them function properly in your facility. Correct installation is the first step to operate your instruments and system reliably over an extended time.

Make sure that necessary operating supplies, fittings, consumables, and usage-dependent items such as vials, syringes, and solvents are available before beginning installation.



## Verify Site Preparation for Your GC, GC/MS, and ALS

- ☐ Adequate space available
- ☐ Suitable supporting bench

### CAUTION

The supporting surface for the 7200 Q-TOF GC/MS system should be kept relatively vibration free. Vibration can lead to a loss of mass accuracy and resolution.

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- ☐ Adequate electrical power available at the correct voltages and frequencies
- ☐ Environmental control systems adequate to maintain a correct, stable operating environment
- ☐ Adequate safe exhaust venting preparations
- ☐ Necessary supplies for instrument operation are available, including solvents, carrier and reagent gases for performance verification, and printer paper
- ☐ Computer as required for your instrument
- ☐ Verify shipped materials are unpacked and inspected

## GC and MS Installation

### MS installation

- ☐ Unpack and verify condition and completeness of shipment with shipping documents.
- ☐ Check serial numbers and fill in installation documentation serial number fields if necessary.

- ☐ Place MS on bench.

**CAUTION**

The supporting surface for the 7200 Q-TOF GC/MS system should be kept relatively vibration free. Do not put the rough pump on your laboratory bench with the 7200 Q-TOF GC/MS due to the vibration that the pump creates. Vibration can lead to a loss of mass accuracy and resolution.

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- ☐ Place the foreline pump on the floor or on the bench.
- ☐ Open MS top cover. (597x series MS only)
- ☐ Prepare MS and standard or dry foreline pump.
- ☐ Remove diffusion pump cap from MS (5975B VL MSD and 5977 DIFF MSDs only).
- ☐ Vent the MS.
- ☐ Install G3397A High Vacuum Gauge Controller (required for 5975 and 5977 Series CI MSDs).
- ☐ Prepare and connect reagent gas lines to MS (CI MSDs).

**WARNING**

**The use of hydrogen is specifically prohibited with the 7200 Q-TOF MS.**

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- ☐ When using hydrogen as a carrier gas, remove and store the plastic cover over the window on the front of the MS. (5975 and 5977 Series only)
- ☐ Connect the GC's collision gas EPC module's line to the analyzer. (7000 GC/MS and 7200 Q-TOF MS).
- ☐ Connect the IRM helium line to the analyzer. (7200 Q-TOF MS).
- ☐ Place the 7200 Q-TOF alignment tool on the bench.

## GC Installation

- ☐ Unpack and verify condition and completeness of shipment with shipping documents.
- ☐ Check serial numbers and fill in installation documentation serial number fields if necessary.
- ☐ Check voltage settings of the instrument and computer systems.
- ☐ Verify that power cables are correct (must correspond with power socket).
- ☐ Verify line voltage and voltage settings.
- ☐ Place GC drawer stand on benchtop. (7000 and 7200 GC/MS only)
- ☐ Place the GC on the bench or mounting platform.

### WARNING

**The use of hydrogen is specifically prohibited with the 7200 Q-TOF MS.**

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- ☐ If using hydrogen as a carrier gas, remove the large round plastic cover for the MSD transfer line in the left side panel (7890A GC/MS only).
- ☐ Connect supply gases/traps (if ordered).
  - Verify gas purity.
  - Leak check all connections and purge the gas lines.
- ☐ Connect cryogenic coolant (if included).
- ☐ Plug in power cable.
- ☐ Connect the signal output and/or remote cables (if applicable).
- ☐ Turn on GC power.
- ☐ Set up LAN for use with data system.
- ☐ Configure the IP address if required for data system.
- ☐ Install test column to inlet and condition.
- ☐ Configure the GC time and date, devices, columns, gases, etc.
- ☐ Install the other end of the column.
- ☐ Check out the GC/ALS system using the checkout conditions and sample (use the Agilent Instrument Utility as applicable).

## Connect the MS to the GC

- ☐ Turn off GC power.
- ☐ Align hole in GC left cover to use for back position.
- ☐ Align GC on alignment tool (7200 Q-TOF MS).
- ☐ Connect GC/MS interface heater cable.
- ☐ Position MS with interface in GC oven.
- ☐ Connect remote cable between the GC and the MS.
- ☐ Plug in the MS.
- ☐ Loosen sideplate thumbscrews completely and open analyzer door to view column end (5975, 5977 and 7000 MS only).
- ☐ Install column in the GC/MS interface.
- ☐ Connect standard or dry foreline pump and AC supply power cords to the MS.
- ☐ Turn on GC power.
- ☐ Turn off transfer line heater.
- ☐ Set GC carrier gas flow to 1.0 mL/min with constant flow enabled.
- ☐ Turn on MS power (press on the sideplate(s) ).
- ☐ Verify standard or dry foreline pump and front fan operation.
- ☐ Verify foreline pump stops gurgling within 60 seconds (standard pump).
- ☐ Verify turbo pump stops whining within 4 minutes (5975 and 5977 inert series, 7000 GC/MS, and 7200 Q-TOF MS only).
- ☐ Verify diffusion pump heater turns on (5975B VL MS and 5977 DIFF MS only).
- ☐ Verify MS does not turn off after 10 minutes of pumping down.
- ☐ Turn off GC heated zones.

## Automatic Liquid Sampler (ALS) Installation

- ☐ Unpack and verify condition and completeness of shipment with shipping documents.
- ☐ Check serial numbers and fill in installation documentation serial number fields if necessary.
- ☐ Install the ALS hardware on the GC:
  - Prepare the GC.
  - Install the tray, if applicable.
  - Install injector mounting post and injector.
  - Connect the injector and tray cables, if applicable.
- ☐ Connect to the controlling device.
- ☐ Turn on GC power.
- ☐ Install the tray vial racks, if applicable.
- ☐ If a tray is not installed, install the standalone sample turret.
- ☐ Configure the ALS on the GC and data system.
- ☐ Calibrate the tray, then the ALS system.
- ☐ Perform a dry run to verify the functionality of the instruments:
  - Cap three sample vials.
  - Place the sample vials in sample positions 1, 2, and 3.
  - Place the solvent and waste vials in position.
  - Install the syringe.
  - Prepare the GC and controlling device.
  - Start the sequence.

## Acquisition Software and PC Installation

- ☐ Install PC and printer as needed.
- ☐ Create system LAN as needed.
- ☐ Install/upgrade software and configure.
- ☐ Install the user documentation on PC (if applicable).
- ☐ Install Agilent Instrument Utilities on the PC.

## Performance Verification (5975 and 5977 Series if applicable)

- ☐ Perform Checkout Tune.
- ☐ Perform Tune Verification.
- ☐ Perform Sensitivity Check verification of EI Sensitivity performance.
- ☐ Switch CI MS to CI operating mode.
- ☐ Verify PCI performance.
- ☐ Perform PCI autotune.
- ☐ Verify PCI sensitivity.
- ☐ Verify NCI performance.



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