Agilent 5975T LTM GC/MSD

Site Preparation Guide

Agilent Technologies

Notices

Manual Part Number

G4360-90002

Edition

Second edition, July 2012

Printed in USA

Agilent Technologies, Inc.
5301 Stevens Creek Boulevard
Santa Clara, CA 95052

Acknowledgments

Warranty

The material contained in this document is provided "as is," and is subject to being changed, without notice, in future editions. Further, to the maximum extent permitted by applicable law, Agilent disclaims all warranties, either express or implied, with regard to this manual and any information contained herein, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Agilent shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein. Should Agilent and the user have a separate written agreement with warranty terms covering the material in this document that conflict with these terms, the warranty terms in the separate agreement shall control.

Safety Notices

CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Contents

Site Preparation

This guide describes how to properly prepare your site for a new 5975T LTM GC/MSD. Follow these instructions carefully as delays due to improper site preparation may result in loss of instrument use during the warranty period.

Overview

Before the 5975T LTM GC/MSD system can be installed, the site must be properly prepared. Site preparation includes, but is not limited to, ensuring that adequate facilities are available. Among the site requirements are:

- Adequate space is available for the system.
- A suitable supporting bench is available.
- Adequate electrical power is available at the correct voltages and frequencies.
- Environmental control systems are adequate to maintain a correct, stable operating environment.
- Preparations for safe exhaust venting are adequate.
- Supplies necessary for instrument operation are available, including solvents, carrier gasses, and printer paper.

NOTE Installation and verification will **only** be performed using helium carrier gas.

Delays due to inadequate site preparation could cause loss of instrument use during the warranty period. In extreme cases, Agilent Technologies may ask to be reimbursed for the additional time required to complete the installation. Agilent Technologies provides service during the warranty period and under maintenance agreements only if the specified site requirements are met.

Customer responsibility

Unless previous arrangements have been made with Agilent Technologies, site preparation is the customer's responsibility. Customer responsibilities include, but are not limited to:

- Planning, scheduling, and preparing the site according to the specifications in this manual
- Verifying that the electrical environment is safe and adequate for system installation and operation

- Complying with all local laws (codes, ordinances, and regulations) for mechanical, building, and electrical distribution systems, hazardous waste disposal, and chemical storage.
  Compliance must exist prior to installation.
- Providing lifting equipment adequate to unload the system from the delivery vehicle and transport it to the site where it will be installed
- Providing someone to help lift the instrument onto the laboratory bench
- Providing adequate secure storage space for the system until it can be installed by an Agilent Technologies representative

Agilent responsibility

An Agilent Technologies service representative will install the 5975T and verify its performance. The service representative's responsibilities are limited to:

- Unpacking the system and verifying that all components are present and undamaged
- Connecting the carrier gas line to the instrument from the tank, regulators, and lines previously installed by the customer
- Installing, connecting, and turning on the system components
- Verifying that the system meets Agilent Technologies performance standards
- Providing **basic** user familiarization for system hardware and software
- Signing the customer up through the Response Centers for instrument and software support

Agilent Technologies is not responsible for:

- Any task not listed in the *5975T LTM GC/MSD Troubleshooting and Maintenance Manual* or the installation guides for the data system and other accessories
- Installing helium carrier gas tanks and regulators
- Connecting or verifying the performance of hardware and software not provided by Agilent Technologies

NOTE Items that do not include installation by Agilent Technologies must be installed by the customer.

- Connecting the Instrumentation and ChemStation data system to the site network
- Testing the system against customer standards or samples
- Providing detailed instruction in the operation of the computer operating system and ChemStation software

NOTE Contact Agilent Technologies for information concerning training classes.

- Setting up laboratory procedures

NOTE Contact Agilent Technologies for information concerning Application Assist or Chemical Analysis Consulting services.

- Operating the system following installation

Other documentation

Additional information is contained in the following documentation:

- *5975T LTM GC/MSD Troubleshooting and Maintenance Manual*
- *5975T LTM GC/MSD Operation* manual
- GC accessories (autosampler, etc.) manuals
- G1701EA MSD Productivity ChemStation software manuals and online help
- The appropriate sensitivity specifications for your instrument. See the Agilent Technologies website at http://www.agilent.com/chem.

Space and Weight Requirements

Table 1 lists dimension and weight information for the 5975T LTM GC/MSD and related components. Your site must have enough bench space for the instrument, data system, and accessories (Figure 1 on page 9). In addition, there must be sufficient space around the system for ventilation and maintenance access. Avoid bench space with overhanging shelves.

At least 20 cm (8 1/4 inches) to the left of the 5975T LTM GC/MSD and at least 20 cm (8 1/4 inches) behind must be kept clear. Allow 100 cm (39 inches) to the right of the instrument for the data system. Keep 28 cm clear to the right front of the instrument to allow the LTM Door to swing open. A minimum of 5 cm clearence is needed above the ALS to allow placement on the postioning rod.

Benches must be vibration- free and sturdy enough to support the weight of the entire system.

Two foreline pump types are available: the wet pump is an oil- sealed rotary vane pump, the dry pump is oil- less.

All pump types can be located on the laboratory bench or on the floor. It must be close to the 5975T LTM GC/MSD because it is connected by a 160 cm (63 inch) hose. The hose is stiff and cannot be bent sharply.

CAUTION Do not put the foreline pump on your laboratory bench if vibration-sensitive equipment is located on the bench.

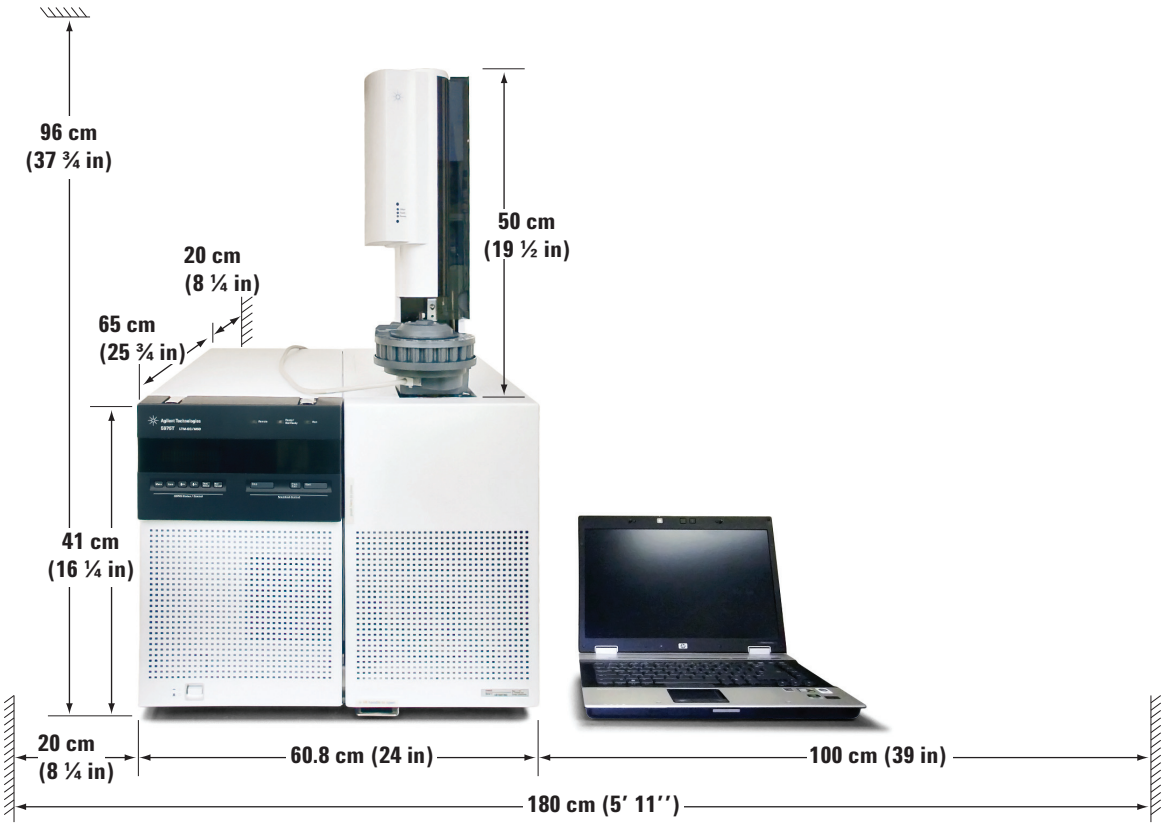

Figure 1 5975T LTM GC/MS operating space requirements

*A minimum of 5 cm clearance required between the bench and any obstruction above the instrument for removal of the G4513A or G4567A ALS

Table 1 Product dimensions

	Approximate Dimensions, cm (in)			
Item	**Height**	**Width**	**Depth**	**Weight, kg (lb)**
5975T LTM GC/MSD	41 (16.25)	60.8 (24)	65 (25.75)	31.8 (70)
G4513A injector	51 (20)	16.5 (6.5)	16.5 (6.5)	3.9 (8.6)

Table 1 Product dimensions (continued)

	Approximate Dimensions, cm (in)			
Item	**Height**	**Width**	**Depth**	**Weight, kg (lb)**
G4567A injector	51.5(20.3)	21.7(8.5)	23.5(9.3)	4.5(9.9)
Foreline pump, wet				15.5 (34)
Foreline pump, dry				4.5 (10)
Foreline pump, Pfeiffer (Japan only)				10.4 (23)
Data System	Data system size and weight depend on the components included in the data system. Reserve at least 100 cm (39 in) of bench space for the data system. A typical data system weight is 34 kg (75 lb).			

Installation in a Mobile Laboratory

The 5975T LTM GC/MSD must be secured to a bench top in the mobile laboratory to prevent it from moving whenever the vehicle is moving. The bench holding the instrument requires (6) 7- mm diameter holes to allow through- bolts to secure the instrument to the bench. See Figure 2 for the layout location of these holes that must be provided in the bench top.

The instrument is secured to the bench by dropping bolts through holes in its base rails and bench top that are fastened by nuts located below the bench. For many maintenance procedures these bolts must be easily removed to relocate the instrument in order to get access to all its sides. If it is not possible to easily provide access to the underside of the counter another method is required to secure the instrument. A metal plate that permanently attaches to the underside of the counter and retains the nut would be one solution.

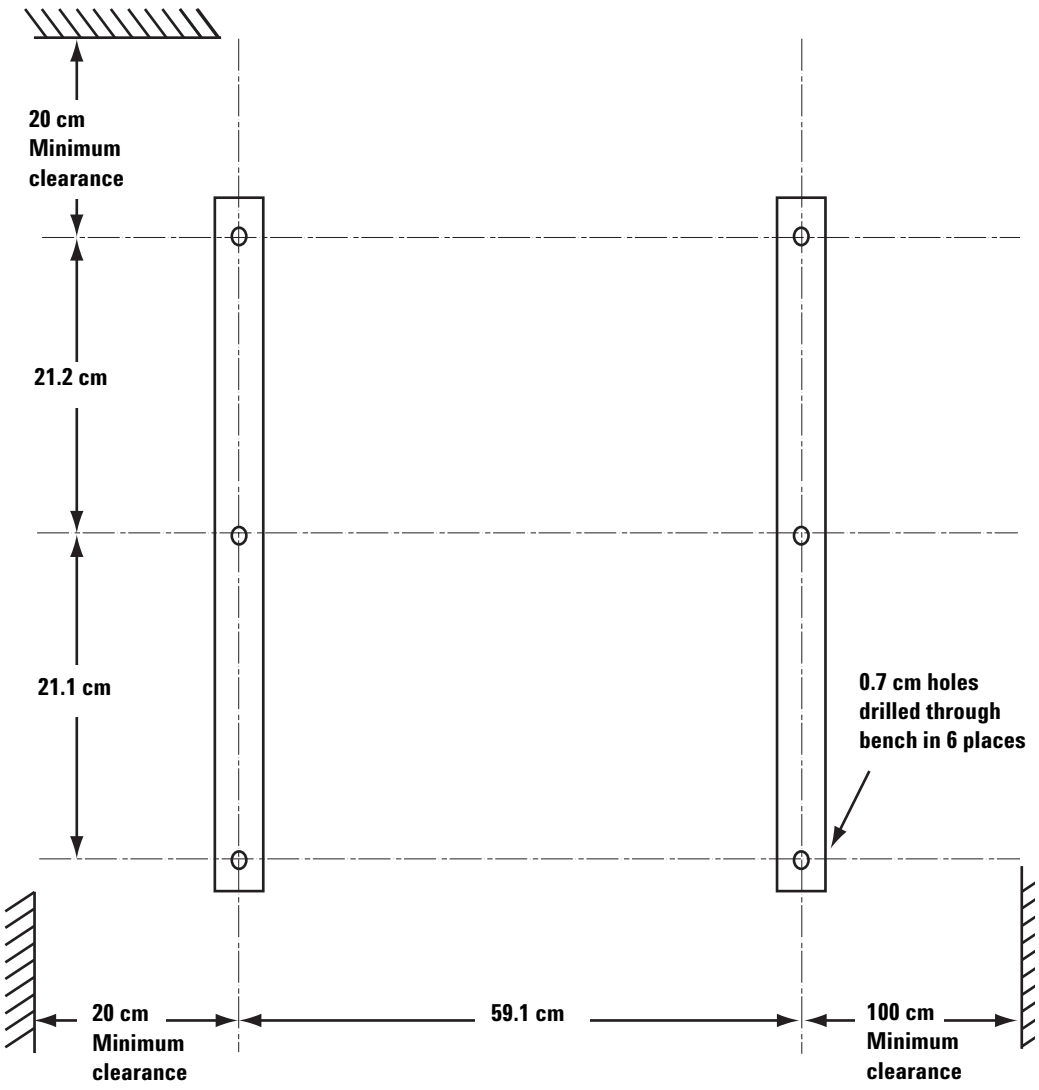

Figure 2 Bolt pattern

Communications Requirements

Telephone

A telephone with a cord long enough to be used at the computer will allow the 5975T operator to communicate with Agilent Technologies support personnel.

Site LAN network

If you intend to connect your system to your site's LAN network, you must have an additional shielded twisted pair network cable.

NOTE Agilent Technologies is not responsible for connecting to or establishing communication with your site LAN network. The representative will test the instrument's ability to communicate on a mini-hub or -switch only.

NOTE The IP addresses assigned to the instrument(s) must be **fixed** (permanently assigned) addresses. If you intend to connect your system to your site's network, The 2 LAN connections on the 5975T LTM GC/MSD must have unique IP addresses assigned and reserved by your LAN site administrator.

Electrical Requirements

You are responsible for providing appropriate electrical power and power outlets for all of the components in your 5975T LTM GC/MSD system. Power considerations include:

- Voltage ranges of major components
- Power configurations
- Power requirements
- Power plugs and cords

Voltage ranges of major components

The 5975T LTM GC/MSD includes a full- range power supply that can operate without reconfiguration on either of two wide ranges of single- phase alternating current (AC) electrical power:

- 120- 127 VAC 50/60 Hz (typical for North America)
- 200- 240 VAC, 50/60 Hz (typical for Europe and Japan)

The foreline pump draws its power from the 5975T LTM GC/MSD. However, a different foreline pump is supplied depending on the voltage range on which the pump will be operating. The pump is supplied according to the standard voltage in the country from which the order originates. For example, if an order originates from an Agilent Technologies sales office in Germany, the foreline pump supplied will be configured to operate on the standard voltage and frequency of electrical power in Germany.

NOTE The 5975T LTM GC/MSD does not support 100 VAC input power. In countries that have only 100 VAC power, a step-up transformer must be used to provide the appropriate voltage.

CAUTION If an instrument is being ordered from one location but is to be installed in another location with different electrical power characteristics, this must be noted on the order. A special note must also be made if the electrical power at the site is different from the standard electrical power in that country.

Power configurations

Electrical power for the 5975T LTM GC/MSD must be single- phase. The neutral wire **cannot** be used for safety grounding. The ground wire should carry zero current except for ground- fault current or static electric discharge. The entire system should share an isolated, noise- free electrical ground. This system ground should be electrically separate from the ground for the rest of the building, back to the main ground for the facility. Power configurations are provided in Table 2.

WARNING **Connecting to a power source which is not equipped with a protective earth contact (ground) creates a shock hazard for the operator and can damage the instrument.**

WARNING **Interrupting the protective conductor inside or outside the 5975T LTM GC/MSD or disconnecting the protective earth terminal (ground) creates a shock hazard for the operator and can damage the instrument.**

Table 2 Power configurations

Configuration	Measurement	Nominal voltage
Single phase, 120-127 VAC	Line to neutral	120 or 127 VAC*
	Line to ground	120 or 127 VAC*
	Ground to neutral	< 0.5 V rms
Single phase, 200-240 VAC	Line to neutral	200, 220, or 240 VAC*
	Line to ground	200, 220, or 240 VAC*
	Ground to neutral	< 0.5 V rms

* Varies with country and/or region

Power requirements

Table 3 lists the power requirements for the 5975T LTM GC/MSD and related equipment. Extra power capacity for future additions is recommended.

The turbo pump, and foreline pump are powered by the 5975T LTM GC/MSD. An additional outlet and surge protector are needed for the data system and the optional vacuum gauge. The 5975T LTM GC/MSD and data system must each have a separate circuit breaker. All of the equipment **must** share a common ground.

Power must meet the specifications listed in Table 3. Use a line monitor to check power stability. If your line power is unstable, you may need to install a line conditioner.

The instrument operates on either voltage range specified in Table 3. The foreline and turbo pumps are supplied with the voltage that is suitable to the country specified on the order where the instrument will operate.

Table 3 Power requirements

Line voltage	Maximum continuous power consumption	Supply circuit rating	Outlets required
120-127 VAC, 50/60 Hz	1450 VA (400 VA for foreline pump only)	15 A	1
200-240 VAC, 50/60 Hz	1100 VA	15 A	1

Power plugs and cord

The 5975T LTM GC/MSD is supplied with a 20 amp power cord and a plug appropriate for the country from which the order originates. For example, if an order originates from an Agilent Technologies sales office in Germany, the plug supplied will be compatible with the standard voltage and outlet configuration in Germany.

Data system components also include power cords with plugs appropriate for the country where the order was placed.

Power cord lengths for the 5975T LTM GC/MSD and the data system components and accessories are approximately 2.3 m (7.5 ft).

CAUTION If an instrument is being ordered from one location but is to be installed in another location with different electrical power characteristics, this must be noted on the order. A special note must also be made if the electrical power at the site is different from the standard electrical power in that country.

WARNING **Make sure the power cords supplied with the 5975T LTM GC/MSD are appropriate for your country and site before installing the instrument.**

WARNING **Do not use extension cords. They are not designed to work with the supplied power cord and can be a safety hazard.**

NOTE Maintain easy access to the power cords so they can be disconnected for maintenance.

Other electrical considerations

Additional electrical considerations include:

- Electromagnetic interference (EMI), such as is generated by NMRs, radio transmitters, and microwave links, may interfere with system performance.
- Protect the system from static electricity by observing humidity and temperature requirements. Minimize the presence of nonconductive products such as carpets and vinyl floor tiles.
- Install emergency- off pushbuttons that can disconnect power to the ventilation system and all electric equipment in the room except overhead lighting.
- Provide separate convenience outlets for building maintenance and other appliances. Convenience outlets must be on circuits separate from the 5975T system. Convenience outlets must share the normal building distribution ground, **not** the 5975T LTM GC/MSD system ground.
- In some geographical areas it may be advisable to install lightning protection for personnel and equipment.

Air Conditioning and Environmental Requirements

Air conditioning considerations include temperature, humidity, airborne dust, and exhaust venting. Each of these is considered in more detail in the following material.

Temperature, humidity, and altitude

The 5975T is specified for operation under the following conditions:

- Operation requires constant temperature (variations <2 °C/h)
- Operation and storage require a noncondensing, noncorrosive atmosphere
- The temperature and humidity limits in Table 4
- Maximum altitude for operation: 4600 m

Table 4 Temperature and humidity limits

	Temperature	Humidity (relative)
Operation	15 °C to 35 °C (59 °F to 95 °F)	40% to 80%
Storage	–20 °C to 70 °C (–4 °F to 158 °F)	0% to 95%

Environmental control systems must maintain these temperature and humidity ranges.

The 5975T LTM GC/MSD is rated for 1200 Watts (4000 BTU/h). The data system also contributes significantly to the cooling load although the exact amount depends on its configuration. Additional allowances should be made for other heat sources such as heat from other equipment, heat from adjacent rooms, and heat from laboratory personnel.

Airborne dust

Agilent Technologies recommends a maximum airborne particle density of 55 $\mu g/m^3$. If you suspect your site exceeds this limit, contact your local Agilent Technologies Customer Service Organization. Customer Engineers with special training and equipment can test for airborne particle density. They can offer suggestions for reducing airborne dust.

Exhaust venting

There are two sources of exhaust on the system: the foreline pump and the inlet split vent and septum purge vent. The foreline pump outputs gas removed from the vacuum manifold by the high vacuum pumps. In addition to the inlet carrier gas, the foreline pump exhaust also contains traces of solvent and sample.

WARNING **User safety requires that the exhaust gases from the system be vented externally to the building and not recirculated by the environmental control system. Health hazards include chemical toxicity of solvents, samples, derivitizing agents, pump fluid vapor, and aerosolized biological samples.**

WARNING **The pump exhaust contains carrier gas and traces of solvents, analytes, and foreline pump oil. The supplied oil trap stops only pump oil. It does *not* trap or filter out toxic chemicals. If you are using toxic solvents or toxic or flammable carrier gas, or analyzing toxic chemicals, do not install the oil trap. Install a hose to take the pump exhaust to a fume hood.**

The foreline pump exhaust **can not** be vented into the laboratory if any hazardous materials will be introduced into the system, including samples, solvents, and carrier gases. It must be vented external to the building or vacuum exhausted to a fume hood.

If a negative pressure vent is not available, the length of tubing from the foreline pump to an ambient pressure vent should not exceed 460 cm (15 ft). The exhaust **can not** be connected to a positive pressure vent. Maximum exhaust flow expected is 1250 mL/min He or H_2.

Exhaust gas venting must comply with all local environmental and safety codes.

Fume (exhaust) hood

An auxiliary work space and fume hood are needed for some maintenance procedures.

Carrier Gas Requirements

Table 5 lists the specifications for the carrier gases. Pressures and flows are as measured at the bulkhead fittings on the top of the instrument, not at the gas supply. We recommend that additional shut- off valves be installed near the instruments.

Regulators, tubing, and fittings

Table 5 Carrier gas requirements

Carrier gas	Purity	Typical pressure range, kPa (psi)	Typical flow, mL/min
Helium (required)	99.9995% or better and hydrocarbon-free	345 to 550 (50 to 80)	20 to 50 (column and split flow)
Hydrogen	99.9995% or better and hydrocarbon-free	345 to 550 (50 to 80)	20 to 50 (column and split flow)

You must supply appropriate regulators for your carrier and reagent gas.

- Regulators must be dual- stage.
- Regulators must have stainless- steel (not elastomeric) diaphragms.
- They must supply gas at the pressure specified.
- They must have one outlet with 1/8- inch Swagelok fittings.

See the Agilent Technologies Chemical Analysis Columns and Supplies Catalog or visit the Agilent Technologies Chemical Analysis website at http://www.agilent.com/chem for dual- stage regulators available from Agilent Technologies.

You must supply Swagelok or Swagelok- compatible fittings, ferrules, and connectors for the 1/8- inch tubing.

Laboratory Supplies and Spares

Laboratory supplies and instrument consumables and spare parts requirements vary with applications. A suggested list is presented in this section.

Cleaning solvents

Cleaning tasks for the instrument require the following HPLC- grade (or better) solvents:

- Methylene chloride
- Isopropyl alcohol
- Methanol
- Acetone
- Water

Proper storage, handling, and disposal of these chemicals is required for personal and environmental safety.

CAUTION Do not use carbon disulfide *as a cleaning solvent* on or around the instrument. It is corrosive and will damage the analyzer. Use of carbon disulfide as a cleaner will void the warranty on the analyzer.

Carbon disulfide may be used as a sample solvent in standard size injections (typically 2 µL or less).

WARNING **Chemical solvents should be considered hazardous and must be handled with care. Contact your chemical supplier for solvent handling and safety information, preferably a material safety data sheet (MSDS).**

Data system supplies

You will need paper for printing the results of the testing done during installation and later for printing reports of your analyses. You will also need appropriate supplies for making backup copies of your data files.

Spare parts and consumables

The supplies and parts listed in the following tables are used in the operation and maintenance of a 5975T LTM GC/MSD system. Keeping these parts on hand can reduce system downtime related to instrument maintenance and repair.

Your 5975T LTM GC/MSD comes with a few basic tools and consumables. Here is a listing of what one will get with the instrument or should have on hand.

See the Agilent catalog for consumables and supplies for a more complete listing, or visit the Agilent Web site for the latest information (**www.agilent.com/chem/supplies**).

Table 6 Basic tools

Tool or consumable	Used for
Inlet wrench	Replacing inlet septa and liners
T-10 and T-20 Torx wrenches	Remove covers to access GC and MSD modules, traps, and possible leaks
¼-inch nut driver	Transfer line, column inlet, guard column nuts
Column cutter	Column installation
1/8-inch Tee, Swagelok, brass	Connect carrier gas supply
1/8-inch nuts & ferrules, Swagelok, brass	Connect carrier gas supply
Inlet septa	Injection port seal
Inlet liner	Injection port
1.5 mm and 2.0 mm hex driver	Ion source maintenance (disassembly)
Tool bag	Used to hold GCMS tools
Q-Tips	Used to clean source parts
Cloths	Used to keep surfaces clean and parts clean
Gloves	Used to reduce contamination on parts in the sample stream
Wrench for SilTite ferrules	Tool for SilTite ferrules pre-swaging

Table 7 MSD maintenance supplies

Description	Part number
Abrasive paper, 30 µm	5061-5896
Alumina powder, 1kg sample	8660-0791
Cloths, clean (package of 300)	05980-60051
Cloths, cleaning (package of 300)	9310-4828
Cotton swabs (package of 100)	5080-5400
Foreline pump oil, Inland 45 (oil-sealed pump only)	6040-0834
Foreline pump tip seal for the IDP3 pumps only	IDP3TS
Gloves, clean, large	8650-0030
Gloves, clean, small	8650-0029
Grease, Apiezon L, high vacuum	6040-0289
Blue Mist Oil Filter (oil-sealed pump only)	G1099-80039

Table 8 Nuts and Ferrules

Description	Part number
Blank, graphite-Vespel	5181-3308
GC/MSD interface	
MS interface column nut	05988-20066
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
Inlet	
Column nut	05921-21170

Table 8 Nuts and Ferrules (continued)

Description	Part number
0.3-mm id, 85% Vespel 15% graphite, for 0.1-0.20 mm id columns	5062-3516
0.40-mm id, 85% Vespel 15% graphite, for 0.25-mm id columns	5181-3323
0.5-mm id, 85% Vespel 15% graphite, for 0.32-mm id columns	5062-3514
SilTite Ferrules for LTM column connection	
Internal column nut	G2855-20530
0.3-mm id, for < 0.25 mm id column	5188-5361
0.4-mm id, for < 0.32 mm id column	5188-5362

Table 9 Split, splitless, direct, and direct connect inlet liners

Mode	Description	Deactivated	Part number
Split	Low-pressure drop, glass wool, single taper, 870 µL	Yes	5183-4647
Split	Glass wool, 990 µL	No	19251-60540
Split—Manual only	Empty pin and cup, 800 µL	No	18740-80190
Split—Manual only	Packed pin and cup, 800 µL	No	18740-60840
Splitless	Single taper, glass wool, 900 µL	Yes	5062-3587
Splitless	Single taper, no glass wool, 900 µL	Yes	5181-3316
Splitless	Dual taper, no glass wool, 800 µL	Yes	5181-3315
Splitless —Direct inject	2-mm id, quartz, 250 µL	No	18740-80220

Table 9 Split, splitless, direct, and direct connect inlet liners (continued)

Mode	Description	Deactivated	Part number
Splitless —Direct inject	2-mm id, 250 µL	Yes	5181-8818
Direct inject —Headspace or purge and trap	1.5-mm id, 140 µL	No	18740-80200
Direct column connect	Single taper, splitless 4-mm id	Yes	G1544-80730
Direct column connect	Dual taper, splitless 4-mm id	Yes	G1544-80700

Table 10 Other consumables and parts for the split/splitless inlet

Description/quantity	Part number
Septum retainer nut for headspace	18740-60830
Septum retainer nut	18740-60835
11-mm septum, high-temperature, low-bleed, 50/pk	5183-4757
11-mm septum, prepierced, long life, 50/pk	5183-4761
Merlin Microseal septum (high-pressure)	5182-3444
Merlin Microseal septum (30 psi)	5181-8815
Nonstick fluorocarbon liner O-ring (for temperatures up to 350 °C), 10/pk	5188-5365
Nonstick fluorocarbon liner O-ring for Flip Top Inlet Sealing System, 10/pk	5188-5366
Graphite O-ring for split liner (for temperatures above 350 °C), 10/pk	5180-4168
Graphite O-ring for splitless liner (for temperatures above 350 °C), 10/pk	5180-4173
Split vent trap PM kit, single cartridge	5188-6495

Table 10 Other consumables and parts for the split/splitless inlet (continued)

Description/quantity	Part number
Retaining nut	G1544-20590
Gold-plated seal (standard application)	5188-5367
Gold-plated seal with cross (high split flows) (includes SS washer)	5182-9652
Stainless steel washer (0.375-inch od), 12/pk	5061-5869
Reducing nut	18740-20800
Column nut, blanking plug	5020-8294
Capillary inlet preventative maintenance kit, split	5188-6496
Capillary inlet preventative maintenance kit, splitless	5188-6497

Table 11 Miscellaneous parts and samples

Description	Part number
Electron multiplier horn for the Triple Axis Detector	G3170-80103
Filament assembly (EI)	G2590-60053
Octafluoronapthalene (OFN), 1 pg/ul	5188-5348
Perfluorotributylamine (PFTBA), certified (10 gram)	8500-0656
Perfluorotributylamine (PFTBA) sample kit	05971-60571
PFHT	5188-5357
Sample, evaluation A, hydrocarbons	05970-60045

Receiving the System

When your 5975T LTM GC/MSD system is delivered, it is your responsibility to provide for removal of the shipping containers from the truck and also provide for their storage until installation. Contact your Agilent Technologies service representative as soon as your shipment arrives to arrange an installation date.

Delivery and unloading

The shipping containers are large and heavy. The largest container in the shipment is 121.9 cm (48 inches) × 121.9 cm × 121.9 cm. It contains several smaller cartons that can be removed from the large container after delivery to facilitate moving them to the location where the instrument is to be installed. After removing the smaller cartons and discarding the outer container, the largest remaining carton, may be as large as:

- 89 cm (35 inches) high
- 81 cm (32 inches) wide
- 74 cm (29 inches) deep
- 60 kg (132 lbs)

All doorways, hallways, floors, and elevators must be able to accommodate the largest, heaviest container.

Inspecting for damage

Once the shipping containers are unloaded, examine them for any obvious **external** damage. If any of the containers appear damaged, note on the carrier's bill of lading that there is ***Apparent damage - subject to inspection and test.*** Arrange for both the carrier's claims representative and your Agilent Technologies service representative to be present when the containers are unpacked.

Do not open any of the shipping containers unless a representative of Agilent Technologies is present. **Opening any of the containers without an Agilent Technologies representative present will void the receiving warranty on the instrument**.

Storage

It is your responsibility to store the containers until installation. If your site does not have adequate storage space, the containers may be stored at your expense in a bonded warehouse. Allow space for data system and accessory containers too.

The environment in the storage area should be between 5 °C and 50 °C (41 °F and 122 °F), 20% to 80% relative humidity, non- condensing and non- corrosive.

Unpacking

Do not open any shipping containers until an Agilent Technologies representative is present. Warranty claims for missing items will not be honored unless an Agilent Technologies representative is present to verify the contents of each container as it is unpacked.

The actual shipping containers become your property and should not be returned to Agilent Technologies.

Agilent Technologies

Printed in USA, December 2010

G4360-90002