Site Preparation Specification

Purpose of Procedure
Your site must meet this specification or set of requirements to assure a successful and timely installation of your Agilent 3000 Micro GC. This checklist is designed to prevent delays during installation, familiarization, and the initial use of the GC system in your application. This checklist outlines the space and utility requirements for a 3000 GC. It also recommends tools and consumables that may help you get started.

Customer Responsibilities
Make sure your site meets this specification, including: the necessary space, electric outlets, gases, tubing, operating supplies, consumables and other usage dependent items required for the successful installation of instruments and systems. If Agilent is delivering installation and familiarization services, users of the instrument should be present throughout these services; otherwise, they will miss important operational, maintenance and safety information.

Important Information
If you need assistance, please contact your local Agilent Technologies office. Assistance with this checklist and with user specific applications is available and will be contracted separately.

Dimensions and Weight ☐

Select the bench space before your system arrives. Allow at least 20 cm clearance between back of GC and wall to dissipate heat.

	G2801A, G2803A		G2802A, G2804A	
Weight	5.1 kg	11.2 lbs	11.2 kg	24.8 lbs
Height	15.5 cm	6.1 inches	15.5 cm	6.1 inches
Width (manual inlets)	25 cm	9.8 inches	47 cm	18.5 inches
Depth	44 cm	17.2 inches	42 cm	16.5 inches

A system that includes a Micro GC, gas sampler, computer, CD-ROM writer, and printer requires about 122 cm or 4 feet of bench space. See picture above.

Power Consumption ☐

The number and type of electrical outlets depends on the size and complexity of your system. A complex system that includes a desktop PC, printer, sample conditioner, and network HUB requires up to 6 outlets for the 6 power cords. Your system may require 1 or more power strips. The Micro GC comes with an AC power adapter similar to those used with Laptop computers and a 3-prong, power cord suitable for your country. The following table shows the required line voltages.

Model	Line voltage	Frequency	Current (amps)	Power	Output
G2801A, G2803A	90-264 VAC	47-63 Hz	1.5 @ 90 VAC	70 watt	19 VDC
G2802A, G2804A	90-264 VAC	47-63 Hz	3.2 @ 90 VAC	125 – 130 watt	24 VDC

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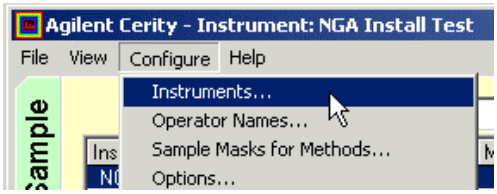
Notes

1. For G2801A and G2803A, the power adaptor is part number G2801-60569.
2. G2802A and G2804A, the power adaptor is part number G2801-60639.
3. Heat dissipation calculations are not available for these models. A rough estimate based on the maximum power available from the power supply is the wattage of the supply x 3.414; 239 BTUs/hr and 427 BTUs/hr respectively.



Non-Agilent computer and networking

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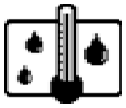
The Micro GC is controlled by Cerity NDS Chemical QA/QC software version A.04.01 or higher. This software provides instrument control and data analysis. It requires Microsoft® Windows® 2000 Professional with service pack 2 or higher and Internet Explorer 5.5 service pack 2 or higher. Communication between the computer and the Micro GC is based on TCP/IP via a 10/100Base-T LAN connection. The minimum requirements for the computer include: a Pentium III processor operating at 450 MHz or higher, at least 128 MB of RAM for a single instrument, and a hard-disk with at least 6 GB capacity. For more details on software and hardware compatibility, please contact your sales representative.

If you are setting the the Micro GC on your company's local area network (LAN), document the network settings you will need on the computer before installation. Work with your internal computer support person to collect the following information.

Network	Computer	Micro GC 1	Micro GC 2
IP Address			
Subnet Mask			
Default Gateway			
Host Name			
Domain			
Primary DNS			



Environmental Conditions

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Operating the GC within the recommended ranges insures optimum instrument performance and lifetime. Instrument needs space for proper convection of heat and ventilation. Performance can be affected by sources of heat and cold from heating, air conditioning systems, or drafts. Do not power on the instrument below the minimum operating temperature.

Models	Operating temp range	Operating humidity range	Maximum altitude
G2801A, G2802A, G2803A, G2804A	0 to 50 °C	5 to 90%	4,615.38 m

Note

For storage or shipping, the allowable temperature range is –18°C to 50°C and the allowable humidity range is 5-95%, non-condensing.

Carrier Gas Selection, Quality, and Pressure

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The 3000 Micro GC can be configured for 4 different carrier gases: Helium, Hydrogen, Argon, and Nitrogen. Agilent recommends certain carrier gases for groups of analytes and applications. At installation, Agilent can only test the instrument using Helium carrier gas. Agilent recommends that carrier gases be 99.9995% pure. For correct pressure and flow control, the supply must provide 80 ± 2 psi pressure measured at the bulkhead fitting at the back of the Micro GC. The following drawing shows an example of the tubing, traps and fittings for a gas supply.

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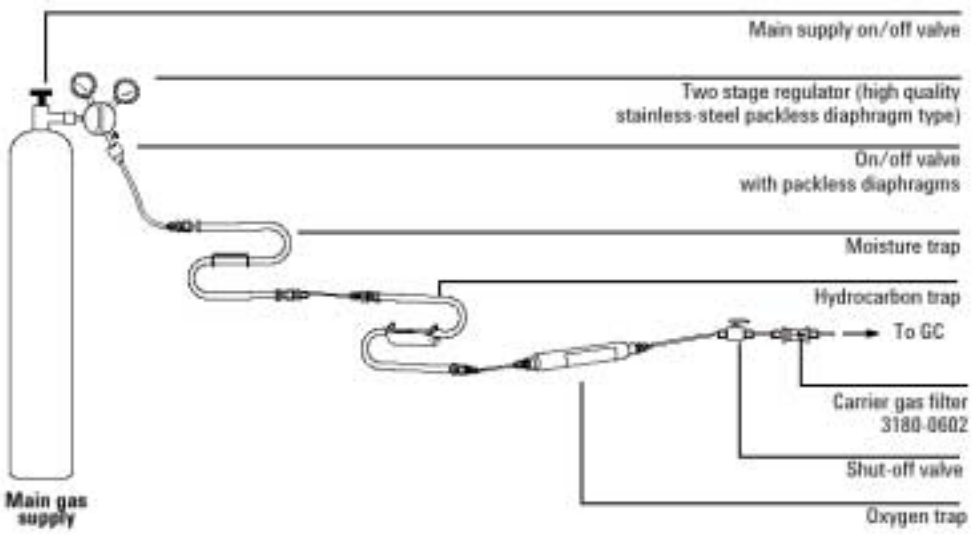

Gases are supplied by tanks, internal distribution systems, or gas generators. Tank supplies require two staged, pressure regulation. **To connect the tubing from the instrument to the supply, the supply must have one 1/8-inch Swagelok® female connector for each gas.** You may need an adapter for your regulator that ends with the 1/8-inch Swaglok® connector.

Agilent also recommends using traps to remove water, hydrocarbons, and oxygen or a combination trap that removes all three. A 2-micron particulate filter comes with the instrument.

This table lists some of the Agilent recommended gas supply parts that you might need. If your order did NOT include parts to connect the gas supply to your Micro GC, you must supply pre-cleaned, 1/8-inch copper tubing and a variety of 1/8-inch Swagelok® fittings to connect the gas supply(s).

Description	Part number
Moisture trap: preconditioned, metal casing, s-shaped. Contains Molecular Sieve 5A, 45/60 mesh, and 1/8 inch fittings.	5060-9084
Hydrocarbon trap: metal casing, s-shaped trap filled with 40/60 mexh activated charcoal and 1/8-inch fittings	5060-9096
Oxygen trap: glass, indicating, and 1/8-inch fittings.	IOT-2-HP
Big Universal Trap, 1/8-inch fittings. (removes hydrocarbons, water, and oxygen)	RMSH-2
Teflon™ tape (Never use liquid thread sealer to connect fittings.)	0460-1266
MPC Plumbing Kit: One 1/8-inch Swagelok brass TEE; Two 1/8-inch Swagelok brass nut and ferrule sets; Two 1/8-inch ball valves; Twelve feet of 1/8-inch copper tubing.	G1290-60515
Pressure regulators, Swaglok fittings, tubing, and NPT fittings (Described in Publication 5988-5847)	See catalog

Connections to sample streams

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If Agilent delivers the installation service, we will set up and test the equipment with a standard gas mix that ships with the product. If you ordered a sample conditioner from us we will install it after this testing. This following table lists the various connections and a recommended pressure range. Do not connect a gas or sample supply above 30 psi directly to the sample inlet.

Sample conditioner	G2801A, G2803A	G2802A, G2804A	Pressure input
Direct connection to external filter assembly with tedlar bag, gas tight syringe, sampling bottle, or tank.	G2801-60980		ambient to 30 psi
Gas-liquid separator	G2817A		10 to 50 psig
Pressure reducer	G2815A		50 to 1000 psig
Gas-liquid separator and pressure reducer	G2816A		< 500 psig
Heated regulator for sampling	G2818A	G2845A	< 500 psig
Heated vaporizer for LPG sampling	G2819A	G2846A	200 to 800 psig

Convert pressure units: 1 psi = 6.8947 kPa = 0.068947 Bar = 0.068 ATM

Other considerations

If you are testing hazardous gases, you may need to take special precautions to vent the gas from the vent and analytical column to a safety system. Certain connections (e.g., analytical vent to a vacuum) can impact the performance of the detector. A long length of tubing will act as a muffler to reduce the noise associated with a vacuum source.

This picture shows a leur fitting connected to the sample vent. The fitting has a barb for connecting 1/8-inch OD plastic tubing. This fitting is available as part number G2890-60520, Male Nylon Leur Fitting, 10/pk.

Your GC comes with a few basic consumables. Here is a list of what you will get with your instrument.

Tool or consumable	Used for	Reorder number
Universal gas mix	Small bottle of gas for testing Micro GC	5184-3541
Regulator for gas mix	Attaches to bottle of gas and regulates pressure	5184-3539
Carrier gas filter	Filters out particulates only. One for each carrier connection.	3150-0602
External filter assembly	Filters out particulates only. One for each sample inlet. Includes stainless steel holder, filter disk, and ferrule.	G2801-60980
Sample filter disk (pk of 5)	Replacement filter for G2801-60980	5183-4652
1/16-inch stainless steel gas supply tubing w/ fittings	About 24 inches of tubing to connect a sample source to the external filter assembly.	5185-5817

First time GC users should consider adding the following tools and supplies to maintain their system and prevent interruptions. New instrument purchasers can get a 15% discount on their 1st order of supplies for 60 days after the equipment order.

Tool	Used for
Digital flow meter	Verifying flows, checking for leaks and plugs. See catalog.
Electronic gas leak detector	Pin pointing gas leaks.
No 1 Point Pozidrive, 8710-0899	Removing top cover
T20 Torx driver, 5182-3465	Removing GC module
Flathead screwdriver, ¼-inch	Removing sample inlet cover
5/16 x ¼-inch open end wrench, 8710-0510	Removing GC module. Connect 1/16-inch fittings to external sample filter.
9/16 x 7/16-inch open end wrench, 8710-0803	Connect carrier gas supplies.
Adjustable open end wrench, 8710-1712	Connect regulator to gas standard bottles

Consumable description and number	Used for
Sample filter disk (pk of 5), 5183-4652	Filters out particulates > 10-microns from sample.
Ferrule, dual taper, FRL-1269	Gas tight seal between external filter assembly and sample inlet.
Filter element for G2819A/G2846A (pk of 4)	2-micron particle filter for heated vaporizer accessory
Filter element for G2818A/G2845A	7-micron particle filter for heated regulator accessory
Universal calib. mix cylinder (bx of 2), 5184-3541	Checkout testing
NGA calib. mix cylinder (bx of 2), 5184-3542	Natural gas analysis calibration standard
RGA calib. mix cylinder (bx of 2), 5184-3543	Refinery gas analysis calibration standard
Gas tight syringe, 10mL, Luer lock, valve, 5183-4552	See catalog for other sizes
Tedlar sampling bags (pk of 5), G2890-60524	Ambient gas sample container
Replacement GC modules	Minimize downtime. Discuss with our sales representative.