

**Site Preparation Specification**

**Purpose of Procedure**

Your site must meet this set of requirements to assure a successful and timely installation of your 6850 gas chromatograph (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 6850 GC. It also recommends tools and consumables that may help you get started. Use it along with the 6850 Site Preparation and Installation documentation and Consumable Catalog. This information is available from Agilent Technologies, Inc.'s website.

**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 such as columns, vials, syringes and solvents 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.

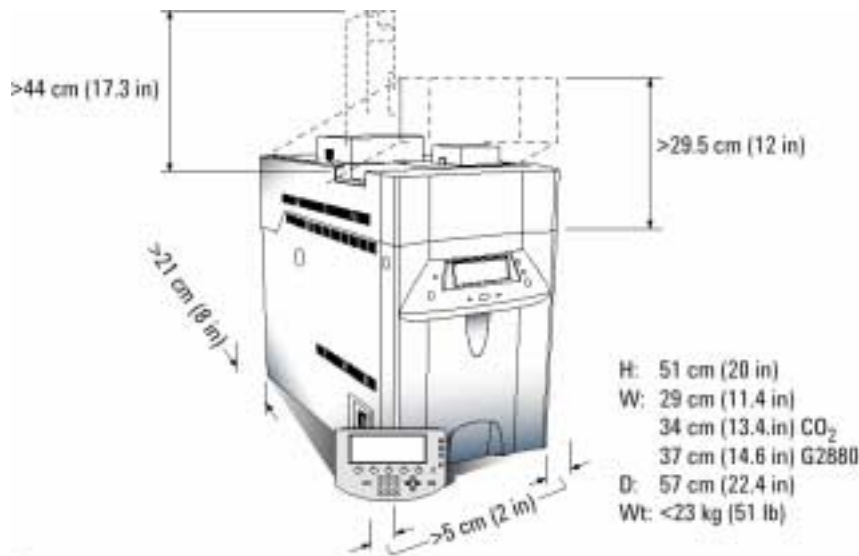


**Dimensions and Weight**

Select the laboratory bench space before your system arrives. Allow at least 21 cm clearance between back of GC and wall to dissipate heated air. See picture below. A simple system that includes a GC and a computer requires about 86 cm of bench space.

Pay special attention to the total height requirements. Avoid bench space with overhanging shelves. A G2880A or G2613A automatic liquid sampler can add about 44 cm to the height of the instrument.

Weight	23 kg	51 lbs
Height	51 cm	20 in
Width	29 cm	11.4 in
Depth	57 cm	22.4 in



**Heat Dissipation**

The maximum additional heat dissipation from this new equipment is 4800 BTU / hour or 5,064,000 joules / hour. This measurement represents the heat given off when heated zones are set for maximum temperatures.

Site Preparation Specification



**Power Consumption**

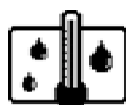


The number and type of electrical outlets depends on the size and complexity of your system. The GC power consumption and requirements depend on the type of oven that you ordered and the country the unit is shipping to.

Line voltage	Frequency	Current (amps)	Power
Americas: 120Vac (1) single phase (-10% / + 10%)	47.5-63 Hz	12	1440 VA
Europe: 230Vac single/split phase (-10% / + 10%)	47.5-63 Hz	8.7	2000 VA
Japan: 100V AC single/split phase (-10% / + 10%)	47.5-63 Hz	14.4	1440 VA

**Notes**

1. Americas 120V requires 15 amp dedicated line. All countries require a dedicated outlet.
2. Power line conditioners should not be used with 6850 GCs.
3. It is very important that the power PCA configuration, main PCA power configuration jumper, and power cord are matched and appropriate for the electrical outlet and supply.
4. A good quality ground is required. Neutral to Ground voltages should not exceed 3.5 Volts rms.



**Environmental Conditions**



Operating the GC within the recommended room temperature and moisture ranges insures optimum 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.

Model #	Operating temp range	Operating humidity range	Maximum altitude
G2629A Hand-held controller	5 to 55 °C	5 to 99%	4,615.38 m
G2630A Gas Chromatograph	0 to 55 °C	5 to 99%	4,615.38 m

**Note:** For storage or shipping, the allowable temperature range is -40 to 70°C and the allowable humidity range is 5 to 95% non-condensing.



**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. The following table lists gases for capillary columns.

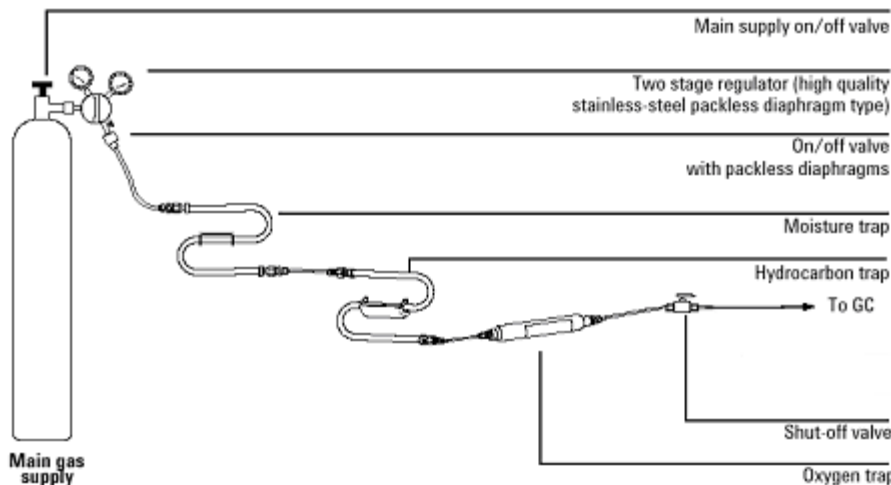
	Carrier	Preferred makeup	2 <sup>nd</sup> choice	Detector, anode purge, or reference
FID	Hydrogen Helium Nitrogen	Nitrogen Nitrogen Nitrogen	Helium Helium Helium	Hydrogen and air for detector
TCD	Hydrogen Helium Nitrogen	Must be same as carrier and reference	Must be same as carrier and reference	Reference must be same as carrier and makeup

Site Preparation Specification



Gas Supply

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 Swagelok® connector.

If your order did NOT include parts to connect the gas supply to your 6820 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).

Agilent also recommends using traps to remove water, hydrocarbons, and oxygen or a combination trap that removes all three.

Agilent recommended gas supply parts that you might need.

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 mesh 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 shutoff valves; Twelve feet of 1/8-inch copper tubing.	G1290-60515
Pressure regulators, Swagelok fittings, tubing, and NPT fittings (Described in Publication 5988-5847)	See catalog

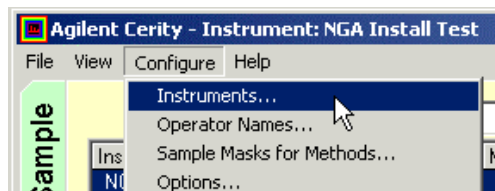
Minimum and maximum pressures in psi for inlets and detectors measured at the bulkhead fitting at the back of the instrument.

	FID	TCD	Split / splitless 150 psi	Split / splitless 100 psi	Purged packed
Hydrogen	35-100				
Air	55-100				
Make up	55-100	55-100			
Reference		55-100			
Carrier max			170	120	120
Carrier min			20 psi above pressure used in method		

Notes

1. Conversions: 1 psi = 6.895 kPa = 0.06895 Bar = 0.06805 ATM = 0.0068 MegaPa = 0.07031 kg/cm<sup>2</sup>
2. Valve actuation requires a separate pressurized, dry air at 55 psi.
3. Never use liquid thread sealer to connect fittings. Never use chlorinated solvents to clean tubing or fittings.

Site Preparation Specification



*Non-Agilent computer and networking*



If you are providing a non-Agilent computer or software for controlling this gas chromatograph or have any networking requirements, please contact your sales representative to insure compatibility and discuss any additional services or IT coordination.



*Other considerations*



Your 6850 GC comes with an analytical column. The default columns are HP-1. There are several optional types. Our checkout standards are designed to work with these columns. In many cases, you will need to select a different column for your application. Refer to <http://www.chem.agilent.com/scripts/chromatograms.asp> for information on column selection, phase selection, guard columns, retention gaps, conditioning, and method development.

Your GC comes with a few basic tools and consumables depending on the specific inlet and detector that you ordered. Here is a general list of what you will get with your instrument

Tool or consumable	Used for
Inlet wrench	Replacing inlet septa and liners.
T10 and T20 Torx wrenches	Remove covers to access EPC modules, traps, and possible leaks.
¼-inch nut driver	FID jet replacement.
Column cutter	Column installation.
1/8-inch Tee, Swaglok, brass	Connect gas supplies
1/8-inch nuts & ferrules, Swaglok, brass (4)	Connect gas supplies
Inlet septa (5)	Injection port seal
Inlet liner or inserts	Injection port

First time GC users should consider adding the following supplies to maintain their system and prevent interruptions in the use of their system. Please refer to the Agilent Consumables and Supplies Catalog for part numbers and recommended maintenance periods. New instrument purchasers can get a 15% discount on their 1<sup>st</sup> order of supplies for 60 days after the equipment order.

Tool	Used for
EPC Leak test kit	Leak testing flow paths with electronic pneumatics control.
FID flow measuring insert	FID troubleshooting.
Electronic flow meter	Leak testing and verifying flows
Column cutters	Cutting columns
T10 and T20 Torx drivers	Remove covers to access EPC modules, traps, and possible leaks.
1/8-inch tubing cutter (wire cutter type)	Cut gas supply tubing
Assorted wrenches: ¼, 3/8, 7/16, 9/16	Gas supply and plumbing fittings.
Consumable category	Consumable
Inlet supplies	Septa, o-rings, liners, adapter, and seals
Pneumatic supplies	Gases, traps, o-rings, seals, Swaglok® fittings
Column supplies	Nuts, ferrules, adapters, guard columns, retention gaps
Detector supplies	Jets, liners, adapters, cleaning kits
Application supplies	Standards, columns, syringes
Sampler supplies	Vials, caps, electronic crimpers, and syringes.