

## Agilent 5100 Series ICP-OES Site Preparation Checklist

Thank you for purchasing an Agilent **instrument**. To get you started and to assure a successful and timely installation, please refer to this specification or set of requirements.

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, consumables, space and utility requirements for your equipment for your site.

### Customer Responsibilities

**Make sure your site meets the following prior specifications before the installation date. For details, see specific sections within this checklist, including:**

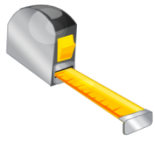
- The necessary laboratory or bench space is available
- The environmental conditions for the lab as well as laboratory gases and plumbing
- The power requirements related to the product (e.g., number & location of electrical outlets)
- The required operating supplies necessary for the product and installation
- Please consult Other Requirements section below for other product-specific information.
- Please follow the site preparation instructions provided in Site Preparation Guide, part number G8010-90001. This document is only an overview of the main requirements.
- Agilent Technologies service providers will not install your Agilent 5100 ICP-OES system until an adequate exhaust system is present and functioning. See Environmental Conditions section.

**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.**

- This checklist includes information on these products G8010AA, G8011AA and G8012AA

### Important Customer Information

1. If you have questions or problems in providing anything described as a Customer Responsibilities above, 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.
2. Should your site not be ready for whatever reasons, please contact Agilent as soon as possible to re-arrange any services that have been purchased.
3. 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.

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## 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

1. The Agilent 5100 Series ICP-OES, its data system and accessories will be delivered to your site in large and small shipping containers. Note the size of the largest shipping container below.
2. The containers will be delivered in a large truck. You must furnish a forklift, or other suitable lifting device, and make arrangements to unload the truck and transport the containers to your site. All doorways, hallways, floors and elevators must be able to accommodate the largest, heaviest container. Do not open any of the shipping containers unless a representative of Agilent Technologies is present.

Instrument Description	Weight		Height		Depth		Width	
	Kg	lbs	cm	in	cm	in	cm	in
Largest shipping container	189	417	132	52	94	37	100	39.4
5100 ICP-OES Mainframe	106	234	94	37	74	29.2	80	31.5

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## Environmental Conditions

Operating your instrument within the recommended temperature ranges insures optimum instrument performance and lifetime.

### Special Notes

- Performance can be affected by sources of heat and cold (e.g., direct sunlight, heating/cooling from air conditioning outlets, drafts and/or vibrations). The site's ambient temperature conditions must be stable for optimum performance, it needs to be held constant to within  $\pm 2$  °C.
- Maximum altitude up to 3000 m (9842 ft).
- Recommended exhaust and venting requirements** include:  
 $2.5 \text{ m}^3/\text{min} > \text{flow} < 6.0 \text{ m}^3/\text{min}$  minimum ( $90 \text{ ft}^3/\text{min} > \text{flow} < 200 \text{ ft}^3/\text{min}$ ) for 150mm diameter ducting.  
 Exhaust flow must be continuous as long as the plasma is ON.  
 Exhaust flow must be stable: maximum fluctuation of  $\pm 5\%$  of flow.  
 The ventilation ducting must have an ID of 150mm (5.9 inches).  
 Flexible ducting must be used for easy removal during instrument maintenance.
- User safety requires that the exhaust gases from the plasma be vented externally to the building and not re-circulated by the environmental control system. Health hazards include chemical toxicity of solvents and samples.
- The customer is responsible for supplying the ductwork between the instrument and the lab extraction system.

Instrument Description	Operating temp range °C (F)	Operating humidity range (%)	Heat Dissipation (Watts)	Heat Adsorbed (Watts)
5100 ICP-OES	15-30°C (59-86°F)	25-80, non-condensing, non-corrosive	870 Maximum to room	
PC Monitor			430 (PC:365, Monitor:65)	
Agilent Chiller (G8481A)			2,000 max	1400 Dual View 900 Radial View
Extraction Vent				2030 max

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## Power Consumption

### Special Notes

1. If a computer system is supplied with your instrument, be sure to account for those electrical outlets.
2. Installation requires an isolated, noise free ground.
3. A power cable will be supplied based on your region. Please ensure the appropriate wall receptacle is provided.

Part number	Description	Wall receptacle	Length m (ft)
8120-8620	Power cord UK, Sing, Malay, HK, C19, 13A	BS1363	2.5 m (8.2)
8120-8619	Power Cord, Australia, C19, 16 amp	AS 3112	2.5 m (8.2)
8121-1222	Power Cord, Europe/Korea, C19, 16 amp	CEE7 VII	2.5 m (8.2)
8120-8623	Power Cord, 250V US/Canada 15A	NEMA 6-15	2.5 m (8.2)
8120-6903	Power Cord, Japan, C19, 20 amp	NEMA L6-20	4.5 m (14.7)
8120-8622	Power Cord, Swiss/DK, C19, 16 amp	Swiss/Denmark 1302	2.5 m (8.2)
8121-0710	Power Cord, India/S.Africa, C19, 15 amp	IS 1293 and IS 6538	2.5 m (8.2)
8121-0161	Power Cord, Israel, C19, 16 Amp	Israeli SI 32	2.5 m (8.2)
8121-0675	Power Cord, Argentina, C19, 16 amp	IRAM 2073	4.5 m (14.7)
8121-0070	Power Cord, China, C19, 15 amp, Fast	GB 1002	2.5 m (8.2)
8120-6360	Power Cord, Taiwan/S America, C19, 20A	NEMA 6-20	2.5 m (8.2)
8121-1301	Power Cord, Thai 220V, 15A, 1.8M, C19	NEMA 5-15	1.8 m (5.9)
8121-1787	Power Cord, Brazil, C19 250V 16A	NBR 14136	2.5 m (8.2)

4. Do not use extension cords with Agilent Technologies equipment. They cannot provide enough power to the system and can be a safety hazard. If the desired location of equipment does not permit its standard power cord to reach an electrical outlet, your electrician should install additional outlets. Otherwise, you should relocate the equipment closer to existing electrical outlets.

Instrument Description	Line Voltage & Frequency (V, Hz)	Maximum Power Consumption (A)	Nominal rating (VA)
5100 ICP-OES,	200 - 240 VAC 50/60Hz Single phase	200-220V 15A 230-240V 13A	2900
PC Monitor Printer	100-127VAC 200-240VAC	10 5	1000 1000
Agilent Chiller (G8481A)	120 VAC, 60Hz 240 VAC, 50Hz	16 8.9	1920 2140
SPS 3 Autosampler	100-240 VAC ±10%, 50-60	<1	220
ASX-500 Series Autosampler	85-264Vac	<1	40

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## Cooling Water Requirements

### Special Notes

1. The preferred cooling system is the Agilent Chiller (G8481A), filled with Poly-Clear Fluid (G3292-80010).
2. If you are not using the preferred system, and another type of water re-circulator is used, the reservoir should be filled with distilled water having a conductance in the range of 50 to 150  $\mu\text{s}$ .
3. Distilled water will keep the system clean. Do not use tap water as it will contaminate the system and do not use deionized water as it will corrode the system.

Cooling Water Parameter	Specification
Heat to be dissipated	1,400W for dual view instruments 900W for radial view instruments
Flow Rate	> 2.0L/min (0.3 us gallons/min)
Pressure	Inlet pressure 230-400kPa (33-58psi)
Temperature	15- 28°C, 20°C recommended at water inlet of ICP-OES
Conductivity	50-150 $\mu\text{S}$ at the chiller reservoir
Connections	Hoses 5m (16.4 feet) long, 12mm ID, with 1/2 inch NPT male connectors

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**Gas Requirements**
**Special Notes**

1. The gas regulators should be within 3 meters (9.8 feet) of the 5100 ICP-OES.

Compressed gas	Purity	Compressed Gas Assoc. Standard	Typical Working Pressure kPa (psi)	Consumption (L/min)
Argon	≥99.996%	CGA 580	500-600kPa* (73-88psi)* Recommended 550kPa* (80 psi)*	31.8 l/min maximum
Nitrogen, Optional Polychromator Purge Gas	≥99.996%	CGA 580	500-600kPa (73-88psi) Recommended 550kPa (80 psi)	6.0 l/min maximum
Option Gas (If required for application)	Oxygen 20% Argon 80% ≥99.996%	CGA 540	500-600kPa (73-88psi) Recommended 550kPa (80 psi)	2.0 l/min maximum

\* Pressure when instrument is supplying gas flow required for plasma.

**Important Customer Web Links**

- For additional information about our solutions, please visit our web site at <http://www.chem.agilent.com/en-US/Pages/HomePage.aspx>
- Need to get information on your product?  
Literature Library - <http://www.agilent.com/chem/library>
- Need to know more?  
Customer Education - <http://www.agilent.com/chem/education>
- Need technical support, FAQs? - <http://www.agilent.com/chem/techsupp>
- Need supplies? - <http://www.agilent.com/chem/supplies>

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