

**Site Preparation Specification**

**Purpose of Procedure**

To assure that the installation of instruments and systems can be completed successfully by careful preparation and evaluation of the installation site and by ensuring the availability of appropriate utilities, consumables and supplies.

**Customer Responsibilities**

Customers should ensure that all necessary operating supplies; consumables and usage dependent items required for the successful installation of instruments and systems are available. Installation sites should be prepared in accordance with the following specifications.

The Agilent 7500 Series ICP-MS, its data system and accessories will be delivered to your site in large and small shipping containers. The largest container is approximately

- 102 cm (40.2 in) High
- 122cm (48.0 in) Wide
- 85 cm (33.5 in) Deep
- 230 kg (506 lbs) Weight

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.

**Important Information**

If you have problems in providing any of the following, please contact your local Agilent Technologies office for assistance. Assistance with user specific applications may be provided but should be contracted separately. Users of the instrument should be present throughout the installation and familiarization otherwise important operational, maintenance and safety information may be missed.

You must use **Site Preparation Manual (PN G3270-90206)** for essential detail information. Please follow the site preparation instructions provided in the manual. This document is only an overview of the main requirements.

**Procedure Checklist**

Tick Boxes



*Dimensions and Weight*

**Agilent 7500 Series ICP-MS:**

- Weight: 175 kg 386 lbs
- Width: 110 cm 43.3 in
- Depth: 60 cm (72cm with optional duct)  
23.6 in (28.3in with optional duct)
- Height: 64 cm (83cm with optional duct)  
25.2 in (32.7in with optional duct)

At least 60 cm (2 ft) on all sides of the instrument must be kept clear for maintenance access.



*Power Consumption*



**Agilent 7500 Series ICP-MS:**

Single Phase 200-240VAC 30 amps 47-63 Hz,  
Rush current 150A 15 millisecond

Plug: Nema L6-30P, Cable length: 5 meter, if this plug type is not compatible with your electrical outlet, the customer must provide a safe electrical connection to the ICP-MS. A certified electrician provided by the customer must perform this.

- Stability:
- Sags or surges: < 3 Cycles duration time  
< ±15% of mean voltage
- Transients: Low Energy <1micro second  
@ 1KV  
High Energy <50 micro  
seconds @ 1KV

RFI susceptibility: 3V per meter  
Permitted Magnetic field 1.0 Gauss (1.0x10<sup>-4</sup> Tesla)

Isolated, noise free ground

**Computer System, Autosampler & Modem:**

Five(5) 100 – 127, 200-240V power outlets, total combined current = 15 Amps.



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**Heat Exchanger:**

One(1) 100 - 120V, 50/60Hz or 200 – 240V, 50Hz,  
10 Amp power supply  
Plug: Standard appliance connector for country of  
purchase.

**Water Recirculating Chiller:**

One(1) 200 - 230V, 12 Amp 50/60Hz power  
supply.  
Plug: Standard appliance connector for country of  
purchase (Neslab M75)

**Exhaust and Venting Requirements**



**Agilent 7500cx:**

> 4.0 m<sup>3</sup>/min <6.0 m<sup>3</sup>/min  
(>12.5 ft/s <18.7 ft/s)

**Agilent 7500cs (and 7500cx with optional duct) :**

> 7.0 m<sup>3</sup>/min <8.0 m<sup>3</sup>/min  
(>21.7 ft/s <24.9 ft/s)

This flow must be maintained when connected to the  
instrument. The backpressure of the instrument is  
approximately 140Pa.

Stability of Exhaust Venting requirement: +/- 10%  
This will remove approximately 2000 watts (6,824 Btu / hour)  
The ventilation ducting must have an ID of 150mm (5.9  
inches)

***Ducting between the instrument and lab extraction system is  
supplied by the customer.***

**Environmental Conditions:**



Temperature: 15-30°C (59-86°F) <2 °C/h change  
and total change should be < 5°C  
Rel. Humidity: 20 - 80% non-condensing,  
non corrosive atmosphere  
Altitude: up to 2000 meter

Agilent Technologies recommends you minimize the  
airborne particle density by producing a better than  
class 10,000 laboratories, and for ultimate  
performance better than class 100 is recommended.

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*Heat Dissipation*



Chiller in the room with the Agilent 7500 :  
50Hz      3,960 watts  
            (13,512 Btu / hour)  
60Hz      4,260 watts  
            (14,536 Btu / hour)

Chiller in another room :  
1050 watts  
            (3,583 Btu / hour)

Heater Exchanger in the room with the Agilent 7500 :  
50Hz      3050 watts  
            (10,407 Btu / hour)  
60Hz      3050 watts  
            (10,407 Btu / hour)

Heat Exchanger in another room :  
1050 watts  
            (3,583 Btu / hour)

**Note :**

**The ambient temperature around the heat exchanger must not exceed 30deg. C. for normal ICP-MS operation.**

*Cooling Water Requirements*



Cooling capacity    1500 watts (5,118 Btu/hr) min

Flow                    >5 liters/min (1.32 US gallons)

Pressure              200 - 350kPa (29 - 50 psi)

Temperatures       15 - 40°C at the water inlet of the ICP-MS.

Conductivity        50 ~ 150µS at the chiller reservoir

Softness              Less than 0.100 grams/ liter  
                            (6 grains/ US gallon)

Connections        One hose, 10 meters (32.8 ft) long  
                            ID=12mm (7/16 inch)  
                            Male PT 3/8 inch fittings on Agilent 7500 end. Male 1/2 inch fittings supplied with the chiller or heat exchanger unit.

Maximum length of tubing can be 5 m without any elevation

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*Gas Requirements*

**Tick Boxes**



Gas	Argon	<input type="checkbox"/>
Purity	UCE 99.99%	
Pressure regulation	700kPa (100 psi) $\pm$ 3.5%	
Flow	18 - 20 L/min	

The gas regulators should be within 5 meters (16 feet) of the instrument.

**Additional Gasses (Configuration Specific)**



Gas	Helium	
Purity	UCE 99.999%	
Pressure regulation	50kPa (7.25 psi) $\pm$ 3.5%	
Maximum flow	7 ml/min	

Gas	Hydrogen	
Purity	UCE 99.999%	
Pressure regulation	50kPa (7.25 psi) $\pm$ 3.5%	
Maximum flow	10 ml/min	

Gas	20% Oxygen, 80% Argon	
Purity	UCE 99.999%	
Pressure regulation	350kPa (50 psi) $\pm$ 3.5%	
Maximum flow	1.0 L/min	

Gas	Xenon	
Purity	UCE 99.999%	
Pressure regulation	50kPa (7.25 psi) $\pm$ 3.5%	
Maximum flow	1.0 ml/min	

Gas	10% Ammonia, 90% Helium	
Purity	UCE 99.999%	
Pressure regulation	50kPa (7.25 psi) $\pm$ 3.5%	
Maximum flow	10 ml/min	

We suggest the upper limit of the regulators for reaction gasses are 100 – 200kPa (14 – 28 psi)

**Essential Requirements for Cell Gas Installation:**

For optimum instrument performance, it is critical to have stable high purity cell gas, with minimal dead volume. The reaction cell gas supply and regulators (H<sub>2</sub> and He) must be located within 3 meters (10 feet) of the instrument. The following parts are essential for installation.

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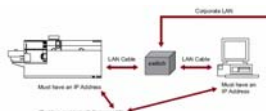
Agilent Part Number	Description	Quantity
G3269A	<b>Gas Purification kit for ORS</b> <ul style="list-style-type: none"> <li>• 8710-1709 (Tubing cutter)</li> <li>• 5182-9706 (2 Position Base plate)</li> <li>• 5182-9705 (Triple filter cartridge) x2</li> <li>• G3270-65035 (1/8" Pre-cleaned stainless steel tubing, 6m, Fittings)</li> <li>• 5182-0821 (Wall mount bracket)</li> <li>• 5182-3423 (Spare O-ring, 8/pk, 4ea. of 2 sizes)</li> </ul>	1

Description	Quantity	Note
Two stage regulator, must be fitted with stainless steel diaphragms, 100 – 200kPa (14 – 28 psi) For use with: He	1	These regulators must be ordered in the country of use. Gas cylinder – regulator connections vary throughout the world and are not compatible.
Two stage regulator, must be fitted with stainless steel diaphragms, 100 – 200kPa (14 – 28 psi) For use with: H2	1	

**Communications**



One(1) voice phone in close proximity to the instrument so that an operator and support person can talk while using the instrument.



Network Connection to Company LAN (not needed for instrument operation)

If you need to connect the ICP-MS computer to your company LAN, we only recommend connection via a switching HUB. A small 10/100 6 port switch can be obtained from many sources at low cost.

When connecting via a switching hub your IT department must reserve two fixed (static) IP addresses that share the same subnet mask and are dedicated to the ICPMS.

**Caution**

The Agilent ICP-MS system does not support the use of a computer with two network interface cards. It has been observed that the use of two NIC cards in an XP system frequently results in crosstalk between the cards. This crosstalk can cause communication failures.

**Product# : G3272B, G3273B**

**Product Description: Agilent 7500cx, 7500cs Series ICP-MS**

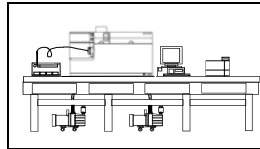


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***Bench Requirements***

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If the bench contains the Agilent 7500 and Agilent ASX500 Series autosampler only, it should be capable of supporting 180Kgs (396lbs) with an area of no less than 190cm x 63cm (6ft x 2ft). Height should be approximately 75cm (2.5ft) for the standard rough pump hoses.

Bench for computer and printer, requires an additional 45Kgs (100 lbs) of capacity and 120cm (4ft) of space.

Note when planning the bench layout, the communication cable between Auto-sampler and computer is 2.0 meters long and the communication cable between computer and instrument is 3.0 meters long, connection is located at the rear of the instrument on the left hand side.

\_\_\_\_\_  
**Company Name**

\_\_\_\_\_  
**Customer Signature/Date**

\_\_\_\_\_  
**Engineer Signature/Date**

\_\_\_\_\_  
**Sales Order Number**