EXPEC 6500 Inductively Coupled Plasma Optical Emission Spectrometer Site Preparation Instruction Manual

1. Site preparation list

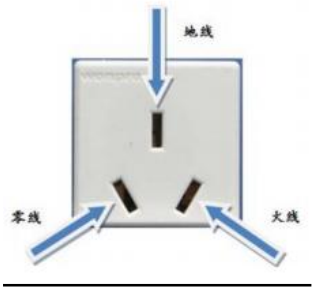
	requirements	Matters needing attention
Laboratory environment	An air conditioner must be installed at room temperature (10-30 ° C). The indoor relative humidity is lower than 60%. A dehumidifier should be installed if the humidity is high	Air conditioning outlet should not be directly facing the instrument
	The laboratory area is over 10m^2, the door width is at least 80cm	Instrument width 70cm
	The load bearing capacity of the experimental platform is more than 200kg, the width is more than 80cm, and the length is designed according to the specific configuration (at least more than 200cm).It is required to be stable and smooth, and a maintenance channel of at least 50cm is reserved behind the experimental platform	See page 4 for instrument dimensions and placement
Exhaust	The exhaust must be installed, the exhaust outlet wind speed 8-12 m/s, and equipped with wind speed control valve	The outlet is 1.2~1.5m away from the instrument platform
	The outer diameter of the exhaust pipe is reserved at 110mm	The instrument has a hose with an inner diameter of 110mm
Circuit	The instrument must be connected earth wires separately	**The voltage between the zero wire and the earth wire is less than 5V**
	Use ≥6 mm² wire to power the instrument separately, air switch is more than 40A, voltage 220v, instrument power <4.5kW	Do not use leakage protection. It is recommended to use a UPS of 10 KVA or more or a regulated power supply
	One 16A socket and at least four 10A sockets	
Argon gas	**Purity ≥99.999 %, prepare at least 4 vials**	The instrument has a 5 meter air pipe with an outer diameter of 6mm
Pressure reducing	The instrument comes with a pressure reducing valve and connector	Multiple cylinders of gas in series need their own pressure reducing valve

valve		
Computer	CPU at least i3 configuration, memory at least 8GB, Windows 10 Professional for the system, hard disk at least 500GB, desktop screen at least 22 inches (notebook resolution greater than 1920x1440)	Ignore this item if it is configured in the contract
Circulating cooling water	The instrument comes with a 5 meter water pipe, good heat dissipation around the water machine, and the room temperature is not higher than 25 ℃	The water machine has its own water tank without external water supply
Reagent	Deionized water with a resistance greater than 18.2 M ω	Bottled water can be used instead
	500ml premium pure nitric acid 1 bottle	At least prime pure
	Standard solution of elements to be tested, prepared by yourself	

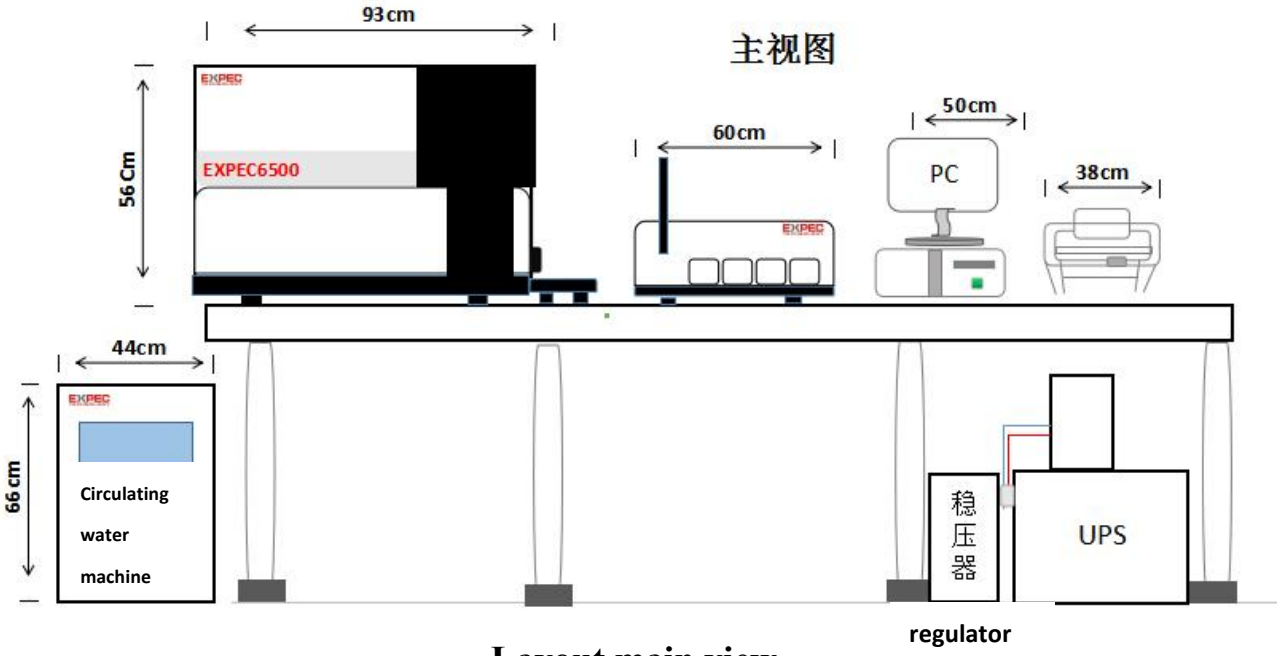
If you have any questions during the site preparation, please call the after-sales service hotline: 400-700-2685.

After confirming that the conditions in the site preparation list are met, please send the following 7 photos of the site to the engineer.

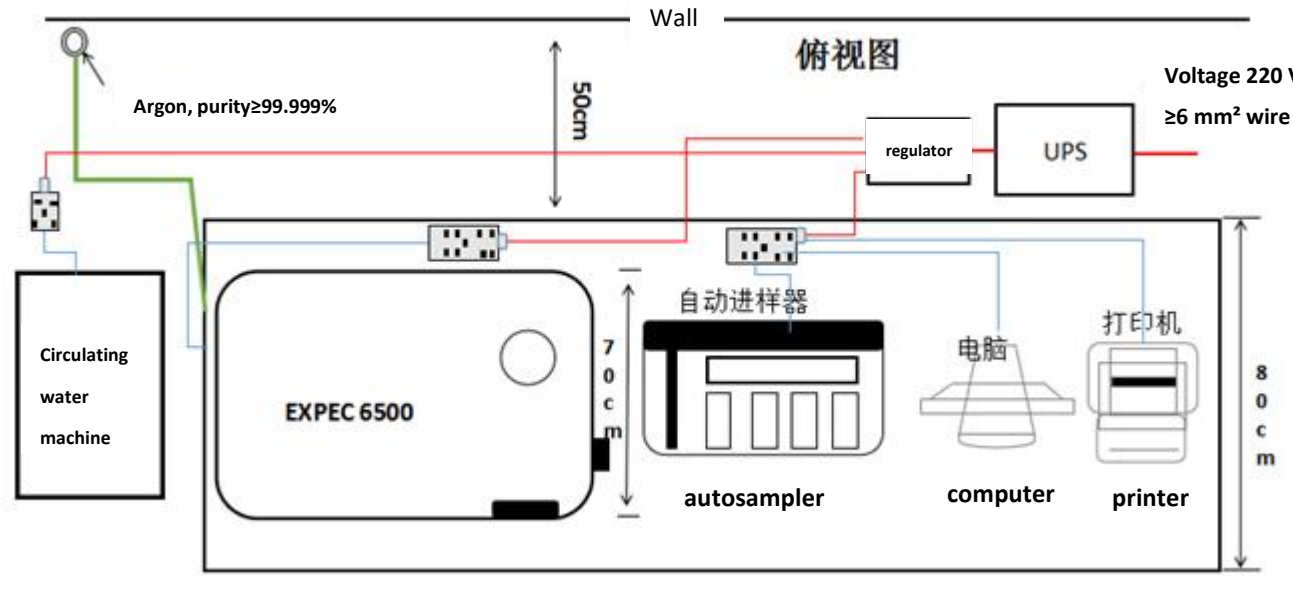
Experimental platform + exhaust pipe	Exhaust wind speed
	
High purity argon	Air conditioner
	

16A socket	Zero-earth voltage
	
All the goods	
	

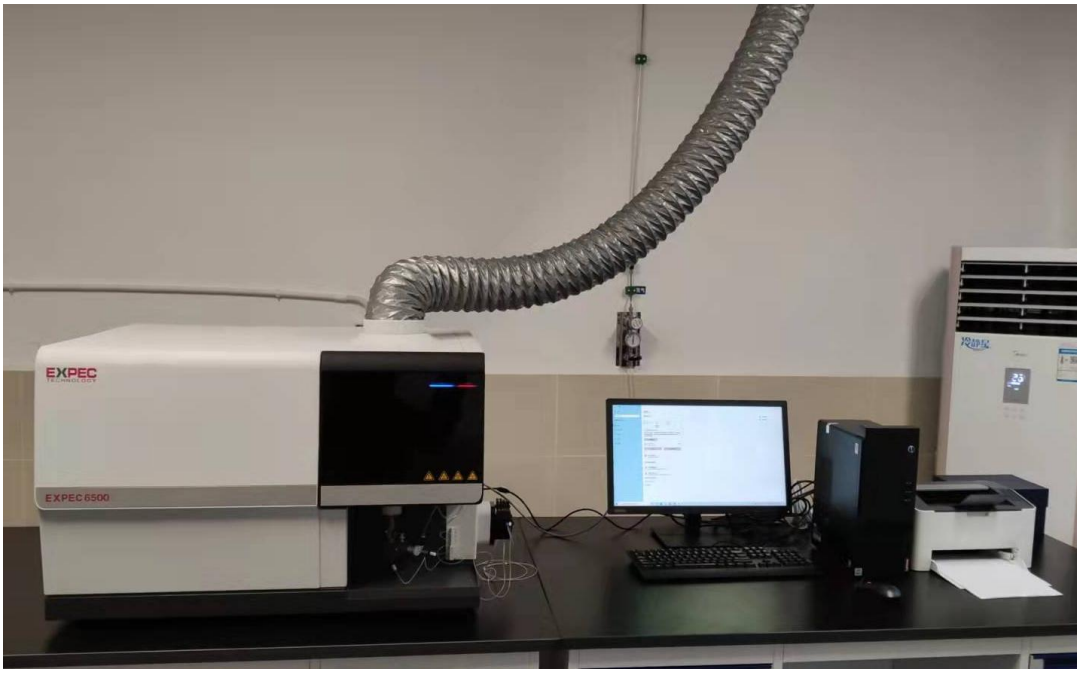
2. Instrument dimensions and requirements for experimental platform



Layout main view



Layout top view



On-site rendering

2.1 For customers who are not equipped with automatic sampler (and have no related plan in the future), the corresponding length can be subtracted when designing the experimental platform. The back of the experimental platform should be more than 50cm away from the wall, so as to place the instrument accessories and future maintenance.

3.Ventilation requirements

3.1 When the instrument works, a large amount of heat and waste gas will be generated, so the exhaust system must be installed. The telescopic hose between the exhaust pipe and the exhaust port of the instrument will be delivered with the instrument.The wind speed of the exhaust outlet is 8-12 m/s. If the exhaust air is too large, it is suggested to install an adjusting air door in the exhaust pipe.

Name	Diagonal flow booster duct fan	Brand	Hon&Guan
Model	HF 315P	Power	(Max)390/(Min)275W
Air Volume	(Max)2206/(Min)1750m^3 /h	Wind Pressure	(Max)693/(Min)435pa
Noise	(Max)69/(Min)61dB	Rotating Speed	(Max)2350/(Min)1650r/min
Weight	11.3kg	Caliber	310mm
Frequency	50Hz	Voltage	220V

Recommended fan models and parameters

3.2 If the air humidity in the area is high, condensate reflux in the exhaust pipe should be considered. Please consult the professional exhaust pipe manufacturer.(If condensate backflow into the instrument, will cause great loss).

4. Power requirements

4.1 The instrument must be connected earth wire separately, and the voltage between the zero wire and the earth wire is less than 5V.Avoid co-wiring with other high-power devices.

4.2 When the instrument works, it will produce large instantaneous power, so it is required to use more than 6 square millimeters of wire for separate power supply (live, zero, earth wire), and leakage protection is prohibited.

4.3 If the voltage is unstable, configure a regulated power supply. If power outages occur frequently, configure UPS power supplies. Power ≥10KVA.

4.4 Prepare at least four national standard 10A three-hole sockets for the computer, monitor, printer and autosampler.

5. Argon requirements

5.1 Working pressure 0.6-0.8MPa, ignition analysis takes about 4 hours to consume a cylinder of 40L gas, please prepare at least 4 bottles of high purity argon ≥ 99.999%.The instrument has its own pressure reducing valve, connector and 5-meter gas pipe. If the distance between the onsite gas cylinder and the instrument is more than 5 meters, please prepare a 6-mm outer diameter hose or lay stainless steel gas pipes.

6.Requirements for cooling circulating water

6.1 The water machine shall be placed in an air-conditioned room with the room temperature not higher than 25℃.

6.2 The instrument has a water pipe of 5 meters. If the distance between the water machine and the instrument is more than 5 meters, please bring a water pipe with an outer diameter of 12 mm by yourself.

6.3 If the cooling circulating water machine of other manufacturers is selected, the output water temperature shall be adjustable in the range of 18 ~ 25℃, and the output water pressure shall be adjustable in the range of 0.2 ~ 0.4mpa.

7. PC and reagent requirements

7.1 The CPU must be i3 or higher, the memory must be at least 8 GB, the system must use Windows 10 Professional, the hard disk must be at least 500 GB, and the desktop computer screen must be at least 22 inches (the laptop resolution is greater than 1920x1440). If the PC has been configured in the contract, skip this item.

7.2 500ml premium pure nitric acid 1 bottle.

7.3 Standard solution: The instrument is delivered with mixed standard solution to have the ICP detection limit test and ICP positioning test for installation and debugging. If you need a standard solution for testing elements, please prepare it by yourself.

8. Notice to Customers

8.1 Please complete the installation and test of the lab, experimental platform, exhaust, circuit and gas path as required. The installation time of the EXPEC6500 spectrometer is about 3 working days, including installation, acceptance and on-site training.The actual installation time depends on the customer.

Note: Please keep the equipment properly after the arrival of the equipment, **and do a good job of moisture-proof anti-freezing,** to avoid damage to the equipment.Do not unpack the box by yourself. If you need to unpack the box by yourself, please contact sales or engineers in advance.

EXPEC 6500 Inductively Coupled Plasma Optical Emission Spectrometer

Confirmation of Installation Requirements

No. : _____

Dear users, hello!

Thank you very much for using Expec products.In order to ensure the smooth installation of the instrument, please prepare the corresponding supporting work, confirm with the following items, tick (√) on the prepared items and fax (or email photo) to Expec.Upon confirmation by both parties, our company will arrange engineers to carry out the project implementation in your company. Thank you for your cooperation.

Hangzhou Expec Technology Co., LTD

□ 1. Have the instruments arrived?(Send photos of arrival conditions to after-sales service staff for confirmation)

□ 2. Specially decorated analytical laboratory, no harmful, flammable and corrosive gases nearby, more than 10 square meters. Laboratory door width of more than 0.8m;

□ 3. Special compartment (or sufficient space) for circulating cooling water unit and power supply regulator;

□ 4. One or more air conditioners with more than 1.5 hp at room temperature (10-30 ℃). The temperature fluctuation within 3 hours is less than 2℃.

□ 5. Install a dehumidifier in humid areas or seasons to ensure that the indoor relative humidity is less than 80%.

□ 6. Prepare the exhaust pipe as required, the outer diameter of the exhaust pipe is 11 cm, and the wind speed at the interface with the instrument is _____ m/s;(Test value with anemometer)

□ 7. Whether an air door with adjustable air volume is installed in the exhaust pipe;

□ 8. The experimental platform bearing 200kg, _____cm long, _____cm wide, _____cm high, _____cm away from the wall;

□ 9. An independent set of (220±20) V AC, 40A, 50 Hz power supply, 40A AC contactor;The zero-earth voltage of this power supply with 5KW load shall not be more than 5V;The power socket should be less than 1 meter away from the power inlet of the instrument. Three-socket sockets should be prepared at least four 10A sockets and one 16A socket (or independent wiring board should be prepared).

□ 10.(Optional)10 kVA single-phase 220 V AC parameter regulator, brand:_____, Model:_____

□ 11. The EXPEC6500 uses the single-phase power supply with protective earth wire. To ensure reliable use of the equipment, ensure that the PE protection ground of the power grid is well grounded and separated from that of other large equipment.

□ 12. Prepare more than 4 bottles of premium purity argon (or 1 bottle of liquid argon) : purity ≥99.999%, oxygen content ≤2ppm, containing H_2O amount ≤ 5 PPM; If premium purity argon is not available, argon purifier is recommended.

□ 13.Computers and printers that meet the requirements have been prepared by yourself, or the instrument contract includes computers and printers;

□ 14.5~10 liters of pure water and the circulating cooling water device in accordance with the requirements of the technical ageement;

□ 15.Deionized water greater than 18.2MΩ for instrument commissioning;

□ 16.Premium pure nitric acid 1 bottle;

□ 17.Operator: general training operation analysis and instrument maintenance personnel 1~2, operators are required to have the corresponding post qualifications.

User Name:_____ Contact Person:_____

Date of confirmation:_____ Tel/Fax:_____

Description:

1. Please fill the prepared conditions in the mark "□" with a "√" symbol.
2. If the installation conditions are not clear, please call our after-sales engineers.
3. Installation period: after the above conditions are met, the normal installation and training period depends on the situation.
4. If you need to install, please inform the manufacturer two weeks in advance, stamp the official seal on the confirmation letter of installation requirements, and inform our company by fax (and leave the contact information).Our company will arrange personnel to communicate and confirm the installation and debugging time within one week according to the confirmation date on the confirmation letter of installation requirements.
5. According to the regulations of the company, all expenses incurred during the delay of installation due to insufficient preparation of the user, such as: hourly fee (1200 CNY/person/day), travel expenses, etc., shall be borne by the user.