

Environmental Requirements for iCAP 6000 Series ICP Spectrometers

The iCAP 6000 Series ICP is a rugged and reliable workhorse instrument designed to perform a wide range of trace element analyses. The instrument technology has been developed for use in both industrial and general laboratory environments with example applications including those common to the metallurgy, mining, petrochemical and environmental market sectors.

Like any piece of analytical equipment, and in order for it to serve its purpose for many years, it will need to be operated in a safe and clean environment and have regular necessary routine maintenance performed. The environmental requirements are similar to those required by a PC.

In order to ensure optimum analytical performance, reliability and longevity of your iCAP 6000 Series ICP product it is important that a number of basic laboratory considerations are observed as listed in the table below:

Consideration	Why is this aspect important?
General environmental conditions of the laboratory	The environmental conditions of the laboratory should be maintained in compliance with Good Laboratory Practise (GLP) to ensure a clean and safe work environment for laboratory personnel.
Appropriate placement of the instrument with availability of a clean air supply	The iCAP, as with all ICPs, draws air through the unit as a source of cooling. If the laboratory air contains a high content of particulates, exhibits high humidity and/or is contaminated with corrosive gases this could lead to premature corrosion, component failure and aging of the instrumentation.
Appropriate placement of sample introduction accessories when working with corrosive or volatile liquids	Liquid autosamplers should be installed to ensure that there is sufficient air clearance around the base of the iCAP instrument. It is also recommended that a cover and/or appropriate extraction is utilised in association with this accessory when working with corrosive/volatile liquids.
Placement of sample preparation accessories if working with acids or volatile liquids	Sample preparation accessories should be installed and operated in an area which is completely separated from the instrument laboratory when performing operations with corrosive or volatile matrices.
Chemical storage and spillage control	It is recommended that the handling of chemicals and reagents is kept to a minimum in the instrument laboratory. Any chemical or reagent spillages should be cleaned up immediately to reduce contamination of the laboratory air. All chemicals and reagents should be handled and stored externally to the instrument laboratory and in accordance with the appropriate MSDS documentation.