

Simultaneous Atomic Fluorescence Spectrometer



Features

Integrated Exhaust System

The configuration of exhaust system effectively decontaminates exterior pollution ultimately enhancing the accuracy of the measurements. The shielded optic design greatly reduces light interference and enhances the signal-noise ratio, increasing the sensitivity and precision of the measurement.

Optical Design

The AF400 utilises a unique optical configuration that increases fluorescence intensity and improves detection limit. This arrangement allows approximately twice the fluorescence intensity commonly found in traditional AFS systems.

Detection

The integration of high quantum solar photomultiplier tubes ensures stability.

Gas/Liquid Separator

The high efficiency gas/liquid separator of hydride and Hg cold vapour minimising pressure fluctuations and improving measurement precision.

Hollow Cathode Lamps

High intensity hollow cathode lamps provide increased intensity and stability. The AF400 multi-channel technology allows lamp configuration to be changed to accommodate application specific requirements allowing either simultaneous analysis increasing efficiency of measurements or ultra high sensitivity.

Quartz Atomiser

The quartz atomiser is selected for durability and long life operation.

Sample Introduction

An integral high performance XYZ auto sampler with 2x45 vial trays provides automatic sample introduction and dilution with superior repeatability. The efficient operation maximises throughput and provides consistent results.

Reagent Compartment

An integral drawer contains up to three reagent bottles with low level indicators.

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Specifications

Sample Atomization

Atomizer	Quartz tube furnace with automatic ignition of Ar-H ₂ diffusion flame reduces interference
Furnace Heating	Computer controlled heating
Vapor/Hydride Generator	Continuous flow, peristaltic pump, high performance mixing section, gas-liquid separator for cold-vapor mercury determinations and hydride generation determination of As,Se,Te,Bi,Sb,Sn,and other hydride forming elements.

Sample Preparation and Delivery

Peristaltic Pumps	A 3 channel pump with 3 adjustable pressure control clamps and programmable speed control.
Exhaust System	Exhaust system with filter efficiently decontaminates pollutants
Gas/Liquid Separator	High efficiency, two-stage gas-liquid separator design
Optics Design	Short focal length, non-dispersive, integrated optical design
3 Channels	3 channels for simultaneous three element analysis, using computer control, modulated, and pulsed light sources.

XYZ Autosampler

Sample Introduction	High sample capacity, automated introduction of samples and reference standards
Sample Capacity	Hosts a maximum of 2x45 standard cup/test tube sample racks.

Power Requirements

AC 220V/50Hz,300W

Dimensions

(L)1006mm×(H)580mm×(W)550mm

Detection Limits

Element	Detection Limits(ug/L)	RSD(%)
As,Se,Pb,Bi,Te,Sn,Sb	<0.01	<1.0
Hg,Cd	<0.001	<1.0
Zn	<1.0	<1.0
Ge	<0.05	<1.0

Baselining Stability

<2%

Linear Range

>10³