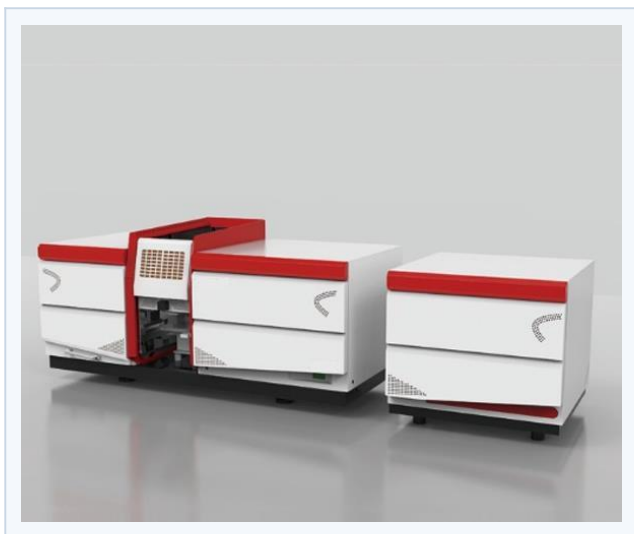


ATOMIC ABSORPTION SPECTROMETER

MF-1800H

Integrated Flame · Graphite-Furnace · Hydride System**Unattended, multi-method elemental analysis**

The MF-1800H is a fully automatic, multi-function atomic absorption spectrometer integrating flame, graphite-furnace and hydride-generation systems on one platform. A six-lamp auto-switching turret and automatic method switching enable complex, unattended analysis. Flexible configurations serve research, QC, disease control, environmental, metallurgy, agriculture and chemical laboratories — with innovative hardware and software for accurate, safe and easy operation.

190–900 nm

WAVELENGTH RANGE

3000 °C

GRAPHITE FURNACE

6-lamp

AUTO TURRET

01 SIGNATURE CAPABILITIES

Polymer nebulizer chamber

Corrosion-resistant polymer spray chamber withstands acids and alkalis — including hydrofluoric acid — for good sensitivity and stability with organic or inorganic solutions.

Titanium burner

Air-cooled premix titanium burner (50 mm / 100 mm options) resists corrosion and high salt loads, sharply improving flame efficiency and analytical accuracy.

Six-lamp automatic operation

Auto safe ignition, extinguishing and switching; a six-lamp turret auto-switches high-performance hollow-cathode lamps with auto power/beam tuning and full-auto peak search.

Graphite-furnace temperature control

Dual inner/outer gas control, 20-stage linear or non-linear heating and up to 20× in-furnace enrichment; longitudinal optical tube-wall monitoring, up to 3000 °C/s.

Dual background correction

Deuterium hollow-cathode plus self-absorption correction removes molecular-absorption interference at low levels — over 50× correction at 1 A deuterium background.

Integrated autosampler

Built into the graphite furnace with a high-precision syringe injecting from 0.5 µL, featuring intelligent online dilution and concentration.

02 SPECIFICATIONS

OPTICAL SYSTEM

Light source	Single- or multi-element hollow-cathode lamps
Lamp turret	Six-lamp auto-switching platform, fully automatic alignment
Lamp current	Pulsed power supply
Optical system	Large-area 1800 lines/mm grating, fully enclosed optics
Wavelength range	190 – 900 nm, auto peak search, one-key optical optimization
Wavelength accuracy	≤ 0.15 nm
Wavelength repeatability	± 0.1 nm
Spectral bandwidth	0.1 / 0.2 / 0.4 / 1.0 / 2.0 nm, auto-set
Baseline drift	Static ≤ ±0.002 A/30 min · Dynamic ≤ ±0.005 A/30 min
Absorbance range	0 – 4 A
Detector	Imported photomultiplier tube

FLAME SYSTEM

Burner	All-titanium, 50 mm or 100 mm universal burner
Spray chamber	Polymer, explosion-proof and corrosion-resistant
Nebulizer	Glass nebulizer (customizable)
Ignition	Microprocessor-controlled automatic ignition
Gas control	Fully automatic gas control system
Characteristic concentration	0.015 µg/mL/1 % (Cu)
Detection limit	0.002 µg/mL (Cu)
Precision	RSD ≤ 0.5 %
Safety	Gas-leak alarm, flashback protection, auto power-off on anomaly

GRAPHITE-FURNACE SYSTEM

Heating method	Longitudinal heating
Temperature control	Longitudinal optical monitoring of tube inner-wall temperature
Temperature range	Room temperature to 3000 °C
Program control	Up to 20 stages; up to 20× in-furnace enrichment
Characteristic mass	0.5×10^{-12} g (Cd)
Detection limit	0.4×10^{-12} g (Cd)
Precision	RSD ≤ 3 %
Cooling	Optional cooling-water circulation system
Safety	Alarms for tube damage, water flow & gas pressure; over-temp protection

GRAPHITE-FURNACE AUTOSAMPLER (OPTIONAL)

Sample tray	130 sample cups + 6 reagent cups
Injection volume	0.01 – 100 µL
Minimum increment	0.01 µL
Injection repeatability	1 %
Repeat injections	up to 99
Rinse reservoir	500 mL

BACKGROUND CORRECTION

Deuterium-lamp correction	Corrects up to 1 A background
Self-absorption correction	Corrects up to 1 A background

DATA PROCESSING

Measurement modes	Flame · Graphite furnace · Hydride-generation AAS
Concentration calculation	Standard-curve (1st–3rd order) auto-fit; standard-addition method
Repeat measurements	1 – 99, with mean, SD and RSD
Result output	Parameter / data / graphic printing; export to Word & Excel

TYPICAL INDUSTRIES

Research · Quality Inspection · Disease Control · Environmental · Metallurgy · Agriculture & Forestry · Chemicals