



Single Beam



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SP-AA 3000

Atomic Absorption Spectrometer

The SP-AA 3000 from Spectrum Instruments is a fully automated computer controlled Flame AAS instrument featuring an 8-lamp turret. The instrument and all accessories are controlled by the SPWin-AA Software. The majority of samples will run smoothly with this instrument, if the stored default methods are applied. In case of unique challenges our application experts will take personal responsibility for responding to the customers' needs.

System Design

Optical system	High light throughput Single Beam
Modes of Operation	Atomic Absorption and Atomic Emission
Monochromator	Czerny-Turner type with 2 focal lengths at 355.8 and 345.6 mm, Automated wavelength and slit selection.
Wavelength range	180-900 nm
Grating	Holographic diffraction with 1200 lines
Wavelength repeatability	±0.1 nm
Wavelength accuracy	±0.3 nm
Sensitivity (Cu)	approx. 0.9A at 5 ppm, RSD≤0.5%
Slits	Automated slit selection 0.1; 0.2; 0.4; 0.7; 1.4; 2.0 nm
Detector	Wide range UV sensitive photomultiplier tube
Lamp	Automated 8-lamp turret with independent lamp power supply for each lamp. Two additional heating circuits for preheating lamps. Non-coded lamp and coded lamp can be used.
Background Correction	Deuterium (D ₂) Background Correction and Self-absorption Background Correction.

Flame System

Burner-Nebulizer-System	Titanium 100mm burners heads: 100mm burner for air / acetylene operation, The optimization of the operating flame condition is also fully automatic and software controlled.
Spray Chamber	The PPS (Polyphenylene Sulfide) spray chamber is used for both aqueous and organic solution.
Gas Controls	Software controlled gas box allows the automatic setting of gas flows for each element.
Safety Functions	Sensor controls for protection to use the incorrect burner head and check the siphon system. In case of pressure failure of fuel or oxidant gas, or power failure, safety interlocks will shut down the gases automatically in the right order.

Option

Hydride System	The Hydride system is a continuous flow technique for the determination of As, Se, Sb, Sn, Te, Bi and Hg at low microgram per liter (ppb) concentration with electrothermal heating unit (600–950°C) to heat the quartz cell. The Hg will be determined with the cold vapour technique. The system has the gas flow control including two peristaltic pumps for supply the reagent, acid and samples solution.
Autosampler for Flame	Corrosion resistant sample tray is consist of 85 positions. Integral peristaltic pump with speed control provides on-demand rinsing of the probe, eliminating carryover.

Other Information

Software	SPWinAA Software Package
Weight	90kg (main unit only)
Dimensions (W x D x H)	800 mm x 580 mm x 575 mm
Environmental Requirements	10 °C up to 35 °C Rel. humidity max. 85 %
Power Requirements	110 / 220V±10%, 50/60Hz, 1000W (Max.)