

Flame/Graphite Furnace Atomic Absorption Spectrophotometer WFX – 110A / 120 A/130 A



Features

- Innovated rich oxygen air-acetylene flame analysis technique (WFX – 110A)
- Integrated flame/graphite furnace atomization system, changeable with flame emission burner
- Accurate fully automated control system
- Reliable fully automatic graphite furnace analysis
- Perfect safety protection measures
- Advanced and reliable electronic design
- Easy and practical analysis software

Specifications

Main Specification :

- Wavelength Range: 190 – 900nm
- Wavelength Accuracy: ± 0.25 nm
- Resolution: Two spectral lines of Mn at 279.5nm and 279.8nm can be separated with the spectral bandwidth of 0.2 nm and valley peak energy ratio less than 30%
- Baseline stability: $\leq 0.004A/30min$
- Background correction: The D2 lamp background correction capacity/ at 1A is better than 30 times.
- The S-H background correction capability at 1.8A is better than 30 times (only for WFX – 110A – 120A)

Hollow cathode lamps

- Lamp Turret: 6 – lamp turret (WFX – 110A-120A), 4-LAMP TURRET (WFX – 130A)
 - Auto-alignment, fully automated scan and peak picking.
- Lamp current adjustment: Automatic adjustment and display Wide pulse current 0-25mA, Narrow pulse current 0 -10mA
- Lamp power supply mode:
 - 400Hz square wave pulse;
 - 100Hz narrow square wave pulse + 400Hz wide square wave pulse.(WFX – 110A-120A)

Optical System

- Monochromator: Single beam, Czerny – Turner design grating monochromator
- Grating: 1800 1/mm
- Focal length: 277 mm
- Blazed wavelength: 250nm
- Spectral bandwidth: 0.1nm, 0.2nm, 0.4nm , 1.2nm, automatic change

Flame Atomizer

- Burner: 10cm single slot all-titanium burner
- Spray chamber: Corrosion resistant all-plastic spray chamber
- Nebulizer: High efficiency glass nebulizer with metal sleeve, Sucking up rate : 6-7ml/min
- Emission burner: Provided with WFX – 110A-120A

SPECTRO PHOTOMETER

Graphite Furnace

- Temperature range: Room temperature – 3000°C
- Heating rate: 2000°C/s
- Graphite tube dimensions: 28mm (L) x 8 mm (OD)
- Characteristic mass: Cd $\leq 0.8 \times 10^{-12}$ g, Cu $\leq 5 \times 10^{-12}$ g Mo $\leq 1 \times 10^{-11}$ g
- Precision: Cd $\leq 3\%$, Cu $\leq 3\%$, Mo $\leq 4\%$

Detection and Data Procession System

- Detector: R928 photomultiplier with high sensitivity and wide spectral range
- Software: Windows operating system
- Analytical method: Working curve auto-fitting; standard addition method; automatic sensitivity correction; automatic calculation of concentration and content.
- Repeat times: Maximum 20 times of repeat measurement, automatic calculation of mean value, standard deviation and relative standard deviation.
- Multi-task Function: Sequential determination of multi-elements in one sample.
- Condition reading: With model function
- Result printing: Measurement data and final analytical report printout, editing with Excel.
- Standard RS – 232 serial port communication

Characteristic concentration and Detection Limit :

- Normal Air – C₂H₂ flame: Cu : Characteristic concentration ≤ 0.025 mg/L, Detection Limit ≤ 0.006 mg/L,
- Rich oxygen Air-C₂H₂ flame:
 - Ba : Characteristic concentration ≤ 0.22 mg/L
 - Al: Characteristic concentration ≤ 0.4 mg/L (for WFX – 110A)

Function Expansion

- Hydride vapour generator can be connected for hydride analysis.

Dimensions and Weight

- Main unit: 1020 (L) X 490(W) X 540 (H) mm unpacked 80kg
- Graphite furnace: 420 (L) x 420 (W) x 460 (H) mm unpacked 50kg

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