

M4 Optical Emission Spectrometer (Arc/Spark-OES)

Ideal Solution to Metal Analysis



# M4 Metal Analyzer



## Summary

The M series optical emission spectrometer adopt international standard design and manufacturing process technology, full digital combines with internet technology, and using high resolution CMOS detector, the precisely designed argon purge system to guarantee instruments with higher performance, lower cost and extremely competitive price.

M4 Spectrometer is most suitable instrument for the determination of various elements in different matrices (Fe, Cu, Al, Ni, Co, Mg, Ti, Zn, Pb, Sn, Ag, etc). It is an ideal solution to quick analysis near the furnace, metal material quality analysis and research laboratories. This also gives the user a truly portable spectrometer that's both easy to use and easy to space saved.

### A

### **Applications**

- Large Steel Plants Where needs are at around 100 PPM levels or elements like C, N, Cr, S, P etc
- Testing Laboratories: Commercial testing Laboratories, Universities and colleges
- Regulatory compliance Very low LODs to control Pb, Cd, As etc
- Foundries which need a quick analysis near the fumace
- Manufacturing facilities
- Warehouse material identification
- Base: Fe, Cu, Al, Ni, Co, Mg, Ti, Zn, Pb, Sn, Ag, etc





# M4 Features



### Features

- · Extremely competitive price
- · Smaller, lightweight, exquisite, reliable instrument
- · Energy saving, standby power 50VA
- Light chamber filled with argon in place of complex vacuum system, No vacuum pump
- · High resolution COMS detector can achieve full spectrum analysis
- · Full wavelength coverage, customized factory calibration, adding new element without further hardware configuration
- Wavelength range 165nm~580mn, spectral lines can cover all important elements Compact, rugged and flexible to a variety
  of bases and matrices
- The smaller designed optical chamber structure and the optimized design of argon purge system can ensure transmission rate of elemental lines in UV area.
- · Spectrometer temperature control ensuring high precision and stability
- · Programmable digitalized spark source, generating optimized discharge waveform for different bases
- · Professional data capture, improved accuracy by reducing background interference
- Global factory calibration with interference correction



#### Base

 Available for the relevant bases such as Fe, Cu, Al, Ni, Co, Mg, Ti, Zn, Pb, Sn, Ag, etc

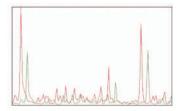
#### **Optical System**

- · Argon cycle method
- Raster focal length:300mm
- Paschen-Runge optical system with full wavelength coverage
- Effective wavelength range 165nm-580nm(extendable)
- · Multi-CMOS detectors with high resolution
- The light chamber filled with argon in place of complex vacuum system



#### Calibration

- · Standard factory calibrated programs
- · Freely selected analysis programs
- Customized calibrated programs according to individual requirements



#### Spark Stand

- Argon flushed and optimized argon flow
- Easily operated sample clamp adapted to different sample geometrics
- · Durable electrode and easy maintenance
- · Easy operated small sample clamp

#### **Readout System**

- High performance DSP and FPGA processor with super high speed
- External PC optional
- · Ethernet data transmission
- · Internet network technology and data cloud storage



#### **Excitation Source**

- · Programmable pulse digital source
- Optimized electronics and complete excitation protection
- Available spark, arc and combined discharge waveform for different bases
- ♦ High-energy pre-spark
- ◆ Frequency: 100Hz~1000Hz
- ◆ Maximum discharge current:400A

#### Software

- Easy used and graphic interface based on Windows
- · Automatic diagnosis system
- Database management
- · Microsoft Windows operating system
- The perfect database management function can easy to inquire and summary data
- Intelligent correction algorithm can keep the instrument stable and reliable



#### **Electrical and Environmental Requirement**

- ◆ AC220±20VA, 50HZ
- ◆ Max 400VA in sparking
- Average standby power 50VA
- ◆ Room temperature: 10°C~35°C
- Relative humidity: 20%~80%

#### Dimension

- 734mm(L)\*578mm(W)\*280mm(H)
- ♦ Net weight: 40kg



Jinyibo is leading manufacturer of Optical Emission Spectrometer, Carbon and Sulfur Analyzer, XRF Spectrometers, ICP Spectrometers.

For now, totally over 6500 sets instrument come in to use globally. Customers include Hyundai Group, South Korea POSCO, DAEWOO, Volkswagen, BMW, Nissan, Shagang Group, SANY, BYD, SINOPEC, GREE, Chinalco, etc.

We focus on innovation of advanced products and manufactured them to be very high quality. Precise Instruments, Perfect Experience are always our top priority. Every day, more than 2.56 enterprises select Jinyibo all over the world.

Today, we have an established presence in 30+ countries across 5 continents including North and South America, Europe, Africa and Asia. In each market, we will spare no effort to deliver the best analytical instruments to meet your demands.











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