



METAL SCIENTIFIC
Measure with Precision

M4 OPTICAL EMISSION SPECTROMETER



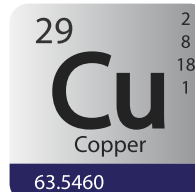
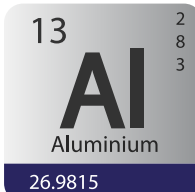
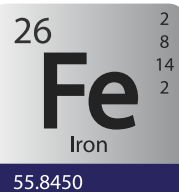
6 CMOS

Vacuum System

On-Site
Calibration

2 Point
Re-Calibration

Focal Length:
300 mm



Economical & Accurate Metal Analyzer

Technical Data for M4

| | Item | Index | |
|-----------------------|---|--|--|
| OPTICAL SYSTEM | Focal Length | 300 mm | |
| | Wavelength Range | 165 nm - 589 nm | |
| | Detector | 6 High resolution CMOS detectors | |
| | Light chamber | vacuum type optics system | |
| | Pixel resolution | 30 pm | |
| | Grating line | 3600m1/mm | |
| | First order spectral line dispersion rare | 1.2nm/mm | |
| | Average resolution ratio | 10pm/pixel | |
| | Full spectrum | | |
| | Light chamber temperature is controlled automatically | | |
| SPARK SOURCE | Type | Digital arc and spark source | |
| | Spark frequency | 100-1000HZ | |
| | Discharge current | 1-400A | |
| | Ignition voltage | >15000V | |
| | Excitation light | Optimization of discharge parameters design High energy precombustion technology HEPS | |
| | Processor | High-speed data synchronization acquisition and processing | |
| SPARK STAND | Electrode | Tungsten electrode technology | |
| | Make up | Thermal deformation self-compensation design | |
| | Argon flushed with minimal consumption of Argon | | |
| | Spray discharge electrode technology | | |
| | Adjustable electrode technology | | |
| OTHERS | Measurable elements | C, Si, Mn, P, S, Fe, Cr, Al, Cu, Ni, Ti, Co, Zn, Sn, Mg, Pb etc. | |
| | Dimension | 714mm(L)*558mm*270mm(H) | |
| | Weight | About 40kg | |
| | Storage temperature | 0°C-45°C | |
| | Operating temperature | 10°C-35°C, 23±2°C is recommended | |
| | Power | AC220V/50Hz(Customized) | |
| | Power consumption | Excitation:400W/Stand by:50W | |
| | Argon quality | 99.999%, Argon pressure>4Mpa | |
| | Argon consumption | 5L/min during spark mode | |
| | Interface | Ethernet data transmission based on DM9000A | |

Main Features

1 Optical system with superior performance

1. The Paschen-Longge structure concave grating, full spectrum coverage, meets the customer's need for full element detection.
2. Direct optical technology and use optics made with MgF2 materials ensure optimum performance in the UV region.
3. High resolution multi-CMOS readout system, lower dark current, better detection limit, higher stability, stronger sensitivity.

2 Fully intelligent vacuum measurement and control

1. The vacuum system is fully programmed to reduce the running time of vacuum pump while ensuring the vacuum.
2. The two-stage setting turns on the standby vacuum operation state when the instrument is not running.
3. Multi-stage vacuum isolation measures and the addition of oil filter devices ensure that optical components work in a reliable environment.

3 Humanized sample spark stand design

1. The spark stand directly introduces the spark light into the optical system.
2. Open sample stage for large sample testing requirements.
3. Change electrodes provide better performance for small sample and complex geometry samples.

4 Simple argon flow design

1. Intelligent argon flow design and dust collection and cleaning device.
2. The unique argon jet technology effectively eliminates the drift of the plasma during the spark process, ensuring that the CMOS detector can observe the high-temperature regional light signal, improving accuracy and stability.
3. After sparking, pulsed argon purge improves dust removal and improves instrument short-term and long-term stability.

5 Large energy digital spark light source

1. Fully digital intelligent composite light source DDD technology brings superior analytical performance.
2. The compact design and semiconductor control technology make the light source more stable and more reliable.
3. High-energy pre-combustion technology(HEPS), spark parameter adjustment, fully meet the excitation requirements of different substrates, different samples and different analytical elements.

6 Dedicated spectral analysis software

1. The international spectrometer produces a standard dedicated spectrometer software with user-friendly interface and standardized functions.
2. The instrument is equipped with multiple factory calibration curves and more material analysis methods and advanced solutions in the software.
3. The upper and lower limits of the standard curve can be extended on site according to the material requirements of the user.





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