Models of M5000 Series

Model	Wavelength	Description
M5000 F	140-680nm	Optimized performance for C,P,S,N analysis; Dual optical system design;
M5000 N	170-680nm	Optimized performance for C,P,S analysis; Dual optical system design; Available for bases such as Fe, Al, Cu, Zn, Ni, Ti, Mg, Co;
M5000 S	200-680nm	Available for bases of Al, Mg, Cu, Zn, Ni, Ti;

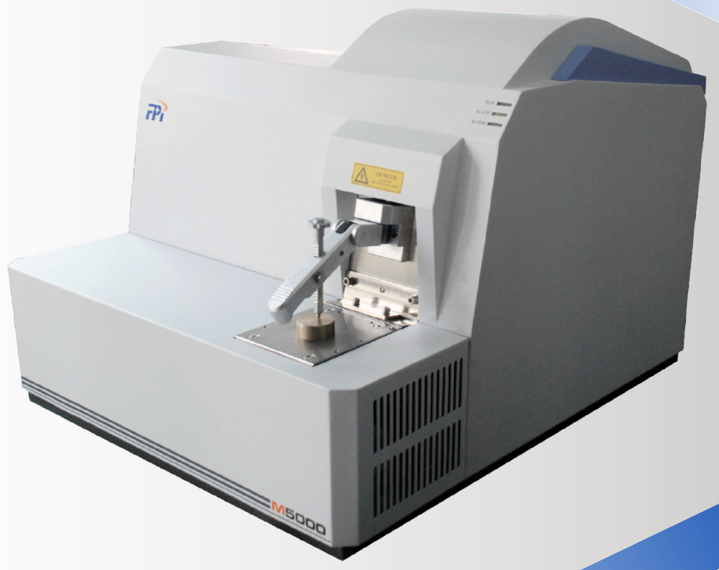
Technical Specifications

Optical System	Paschen-Runge Mounting
Power Supply	Single Phase (220±20)VAC, (50±1)Hz
EMC	IEC6100-4-2, IEC6100-4-4, IEC6100-4-5
Maximum Excitation Power	400VA
Average Standby Power	50VA
Sparking Power Supply	Synthesis Pulse Digital Source
Spark Pulse	20～230V
Arc Excitation Pulse	20～60V
Working Temperature	(10～30)℃
Storage Temperature	(0～45)℃
Working Humidity	20%~80%
Argon Purity Requirement	100.00%
Argon Inlet Pressure	0.5MPa
Argon Flow	Standby Flow 0.1L/min; Excitation Flow≈3.5L/min
Size/Weight	L726 x W622.5 x H546.5mm/≈80kg

For more information, visit our website at www.fpi-inc.com/en

Focused Photonics (Hangzhou) Inc.
No. 459, Qianmo Road, Binjiang District, Hangzhou, China
Tel: +86 571 8501 2188

Focused Photonics Inc



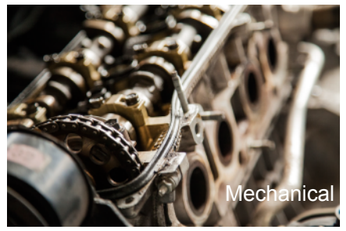
M5000 Spark Optical Emission Spectrometer

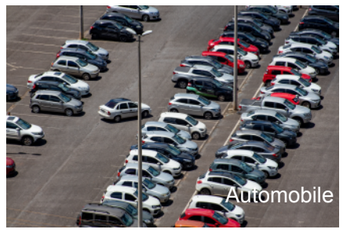
01/

M5000 Spark Optical Emission Spectrometer

Applications

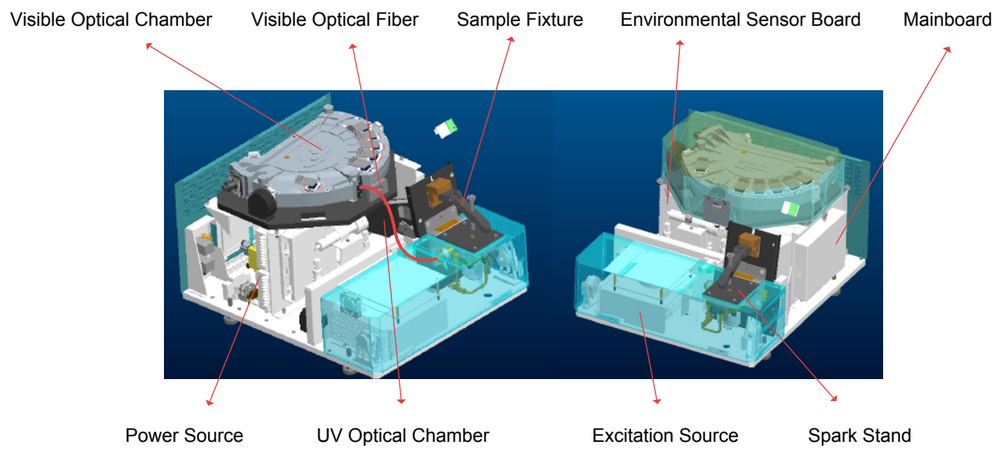
M5000 is a high-performance full-specturm direct-reading spectrometer, it is widely used in the steel and non-ferrous metal industries for rapid analysis of metal composition in front of laboratories and furnaces, inspection of incoming and outgoing materials, and analysis of metal materials in industries such as automobiles, aerospace, petrochemical, electric power, machinery manufacturing and casting.





Introduction

M5000 series adopt the most advanced CMOS sensor technology, with a sturdy and stable constant temperature dual-optical chamber structure, synthesis pulse digital source, and an intelligent logic correction program. Ensure that the analysis results are efficient, accurate, and reliable.



Features

- **The Most Advanced CMOS Detection Technology**

  CMOS has higher sensitivity and lower detection limit compared with CCD. The pixels are upgraded to 8192 pixels, with higher resolution and lower power consumption;

- **Dual Optical System Design**

  Different processing for ultraviolet and visible light, M5000 has good accuracy and detection limit for non-metal elements and stronger analytical ability;

- **Unique Synthesis Pulse Digital Source**

  M5000 can make different discharge responses according to the excitation of different elements, can produce more than 200 kinds of light source discharge waveforms;

- **Abundant Special-shaped Sample Fixtures**

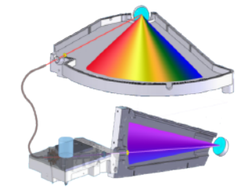
  Provide customized analysis solutions for special materials such as wire, pipe, special-shaped, and thin plates;

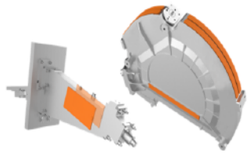
02/

Technical Details

Stable Optical System

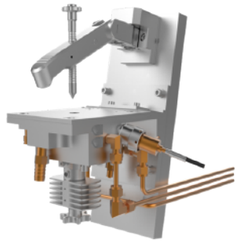
- Full-spectrum optical system with Paschen-Runge mounting;
- Maximum wavelength range from 140nm to 680nm;
- Multiple high-performance CMOS detectors;
- Resistance to environmental temperature changes;
- Constant temperature control of the optical chamber, the constant temperature is 34℃;
- The design of dual optical chambers ensures the best performance of long and short waves;

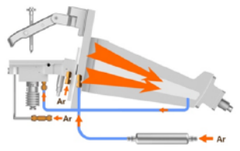




Optional Sample Excitation Stage

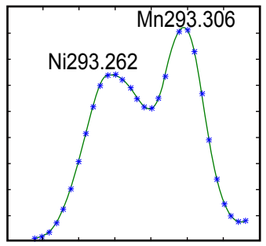
- The special design of the excitation room makes cleaning of the sample room/excitation room more convenient;
- Excitation space, so that argon consumption is smaller;
- Easy-to-use sample fixture;
- With the electrode self-purge function, the electrode has a longer service life and is easier to clean the electrode;
- The open sample excitation stage can be adapted to the analysis of samples of various sizes and more shapes;

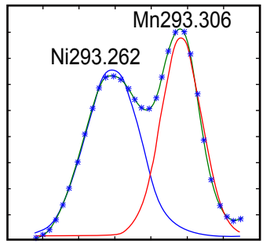




Stable Light Source

- Pulse synthesis all-digital light source, the highest frequency can reach 1000Hz;
- High-energy predictive technology (HEPS);
- Provide the best spark, arc, or combined excitation waveform for different analysis targets;
- Frenquency range from 100Hz to 1000Hz;
- Discharge current up to 400A;





Reliable Analysis Software

- Graphical analysis software based on Windows operating system, convenient and practical;
- Complete automatic system diagnosis function;
- Complete database management functions, convenient for querying and summarizing data;
- Intelligent calibration algorithm to ensure the stability and reliability of the instrument;
- With complete spectral line information and interference deduction algorithm to ensure more accurate instrument analysis;
- Adapt to the latest Windows operating system;

Reliable Analysis Software

- High-performance DSP processor with ultra-high-speed data acquisition and control functions;
- Single spark collection and spectral delay collection to achieve optimized element content measurement;
- High-speed Ethernet data transmission;
- External computer;