

Explorer CCD FS500



- ▶ Provide the installation and commissioning service for user free of charge, and one-year warranty and lifelong maintenance
- ▶ The SooHow Application Laboratory with complete equipment can be timely provided to client for learning and training
- ▶ Supply the favorable spare parts and accessories, relevant standard samples and reagents for a long term
- ▶ As the development of science and technology as well as technical progress of the Company, it can provide the upgraded application software for users and more advanced analysis technique and method free of charge



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书豪仪器
SOOHOW INSTRUMENT

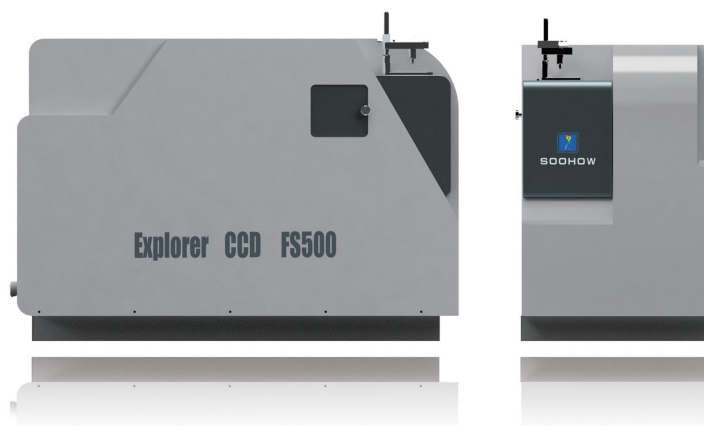
COMPANY INTRODUCTION

Established in Kunshan in 2012, Kunshan SooHow Instrument Technology Co., Ltd. is a high-tech enterprise specialized in research and development, production and sales of atomic emission spectrometry instrument and its software, has its registered address at Accident Qiangdeng Town with the registered capital of RMB fifty million, the legal representative as XU Rongwang and the nature of private limited liability company. The Company was granted with the Jiangsu Enterprise Credit Management Standard Certificate and passed the certification of ISO9001:2015 quality management system and ISO14001 environmental management system, and was awarded with "National High-tech Enterprise", "Jiangsu Scientific and Technological Small and Medium-sized Enterprise", "Kunshan R&D Institute" and other honorary titles. The company owns 45 patents, including 4 patents for invention, 25 patents for utility models, 5 design patents and 11 software copyrights.

The company possesses the R&D capacity of core technology and relevant supporting technologies for atomic emission spectrometry instrument, has successfully researched and developed multiple products applying in material components test technology, covering hollow cathode spectrometer, oil spectrometer, PQL iron content monitor, spark optical emission spectrometer, full-spectrum optical emission spectrometer, circulating water cooling device and other products. The company trained and cultivated a batch of high-level talents for researching and developing spectroscopic technology, created a professional spectroscopic development platform and configured all kinds of advanced development devices, providing the strong software and hardware guarantee for successfully achieving the project technology.



Explorer CCD FS500



Instrument Introduction

FS500 series are crystal of 10-year manufacturing technology of SOOHOW Company on optical emission spectrometer and featured by the top analysis capability.

The cutting-edge manufacturing technique makes FS500 series can satisfy different analysis requirements and apply to: analysis control during production process, quality control, and special and complex application of R&D Department. FS500 series adopt CCD technology, provide the optimal precision, flexible selection of element range and multi-substrate application for users and can analyze the major alloy elements, non-metal elements and trace elements in a fast and accurate way, such as O, N, P, B... in iron and steel as well copper alloy, aluminum alloy and titanium alloy etc.

- ♦ Applying the international standard sample makes working curve in plants to realize the optimal precision and analysis quality. If any of more complex and special application, our experts can provide the new analysis method and program for you.
- ♦ The optical laboratory made by aluminum alloy is firm and stable, and can make the system relatively insulated from external environmental condition depending on the optimized Paschen-Runge structure, highly steady temperature and pressure control.
- ♦ The reading system can receive the display and analysis treatment for all data at the same time and complete that within one full-band scanning.
- ♦ The variable frequency spark source controlled by PC can improve the precision of plasma and repeatability, and reduce the testing time.
- ♦ The analysis software is convenient for operating with efficient and fast daily analysis, and supports network connection for remote control automatically and standardizedly.
- ♦ The instrument is featured by self-diagnosis function and can automatically monitor the instrument working status.

Main Features

- Outstanding and fast analysis performance (only 15-30s)
- Dynamic range: from ppm-%
- The wide spark bench and special small sample clamp makes sure the instrument can apply to analyze various types of metal samples.
- Accuracy: superior to 1% deviation
- Excellent analysis performance on nitrogen and oxygen
- High stability and reliability
- Multiple high-performance CCD tester systems can be optional and 16 CCD testers are maximum according to application requirement to increase the flexibility of instrument substrate and upgrading element analysis
- High-level calibration of standard sample
- Variable frequency high energy pre-spark (HEPS) controlled by PC
- High-precision temperature and pressure control
- Advanced software function, convenient for operation and easy to master
- Applying to analyze various types of metal materials

Parameter of Technical Configuration

FS500 CCD Optical Emission Spectrometer is composed of the following parts:

- Optical system
- Excitation platform
- Excitation light source
- Spectrometer control system and data reading system
- WinLab10 analysis software
- Dimension
- Power supply

1. Optical System

- Paschen-Runge mounting, with the focal length: 500mm
- High-performance holographic diffraction grating, with the grating ruling of 2700 lines/mm
- Each CCD: 3,648 pixel and maximally resolution ratio: 58,368 pixel (16x3,648 pixel)
- Temperature stabilizing system
- Applying special materials to treat shifting
- Spectral line wavelength: 130-800nm is determined by selection of diffraction grating and the grating selection is determined by manufacturer analyzing elements and programs.
- Automatic tracing of all-optical system
- Enclosed vacuum optical laboratory can avoid the interference of dust and light

2. Excitation Platform

- Open spark bench can analyze various types of sample with a weight of 20kg
- Electrode is easy to dismantle and maintain
- Blowing the spark bench by argon to realize low hydrogen consumption
- Convenient sample clamp is used, supporting fast sample replacing
- Adapters for different samples can meet the requirement of various samples (optional)

3. Excitation Light Source

- Automatic control spark source
- Discharge excitation controlled by semiconductor
- Plasma current 1-100A
- There are different excitation parameters for special analysis requirements
- The discharge of spark light source is stable and not affected by fluctuation of power supply system
- Excitation parameters can be calibrated and controlled by excitation line and analysis program
- Multiple parameter settings for spark source
- Spark source frequency: 200-1kHz (controllable)
- Spark source duration: 10-10000us (controllable)

4. Spectrometer Control System and Data Reading System

- The electronic system is capable of multi-channel integral and data system collection function controlled by microprocessor
- High-speed 16-digit analog-digital converter
- ISP mixing signal Flash microcontroller (100MHz)
- Multiple connection sources
- High-speed reading pattern and high-speed USB interface, supporting the fast data control and processing system
- 16 CCD modules maximally can be selected by the manufacturer according to application condition

5. WinLab10 Analysis Software

- Various substrates (reference line) shall be considered when calculating the correction curve of each element
- Intelligent: one group of standard sample can complete the standardization
- User graph interface is convenient for operating
- Create or modify the analysis program
- Common operation functional keys
- Optional output methods (strength, strength ratio, uncorrected concentration, corrected concentration etc.)
- Optional concentration unit (ppm, %)
- Universal standardization
- Micro-standardization
- Correct the interference among elements
- Automatic standardization
- Standard deviation and relative standard deviation function
- Identify the alloy type
- Standard sample library
- International standard substance library
- Brand identification
- Supporting the calculation of C equivalent weight or other parameters
- The element analysis result out of the range of working curve can be marked
- Capable of automatic re-correction function according to analysis time and excitation times
- Statistical software



- Statistics and calculation
- All excitation results or average results of maximally 100 excitations, as well as its standard deviation and relative standard deviation can be printed
- Hard disk data storage is convenient for research and analysis
- It can connect to external computer or central system

6. Dimension

- Dimension: L93xW40xH63cm Weight: approx. 100Kg

7. Power Supply

- 220V +/-10%, single-phase, 50/60Hz, 10A, 1.0KVA