Full-spectrum Spark OES

SparkCCD 7000

Full spectrum Spark OES (CCD)

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NCS TESTING TECHNOLOGY CO., LTD.

About Us

NCS Testing Technology CO., Ltd. (hereinafter referred to as NCS) (Stock Code:300797) is the wholly owned subsidiary of China Iron & Steel Research Institute Group (CISRI). It is the New and High-tech Enterprise and found by the business integration of National Analysis Center for Iron and Steel, China National Center for Quality Supervision and Testing of Iron and Steel, Analysis and Testing Institute of Central Iron & Steel Research Institute, National Nondestructive Testing Center for Steel Products, Analysis and Testing Training Center of Central Iron & Steel Research Institute, Qingdao Marine Corrosion Institute of Central Iron & Steel Research Institute and Beijing NCS Analytical Instruments CO. , Ltd.

The main businesses of NCS involve third-party testing services (including the chemical composition testing, mechanical property testing, material failure analysis, nondestructive testing and measurement calibration), development and sales of analysis and testing instruments, nondestructive testing equipments, anti-corrosion products and related engineering, certified reference materials, proficiency testing and other fields. It possesses many qualifications such as ISO9001, NADCAP, Rolls-Royce, RMP, ISO/IEC 17025 accreditation, CMA, CAL, CMC and PTP. Meanwhile, it is also the “State-Level Testing Organization for Appraisal of Science and Technology Achievements of the People's Republic of China” and “Personnel Training Centre for Analysis Technology Research and Arbitration Analysis ” authorized by Ministry of Science and Technology; the Testing Laboratory accredited by China Quality Certification Mark; the location of production license examination department of bearing steel products of the National Industrial Product Production License Office of State General Administration of the People's Republic of China for Quality Supervision and Inspection and Quarantine (AQSIQ); the open laboratory authorized by Zhongguancun High-Tech Park. NCS also provides technical support for commercial aircraft, China emergency analysis and production safety accident investigation in Beijing.

NCS owns two wholly owned subsidiaries including Beijing China NIL Research CO. , Ltd. for Proficiency Testing and Qingdao NCS Testing and Protection Technology CO. , Ltd. It also has two solely-owned companies in Beijing and Shanghai.

NCS is the pioneer and the leader of metallurgical analysis, material testing and related product development in China. It is also the location of secretariat of International Committee of Analysis for Steel and Iron Industry, and the secretariat of Chemical Composition Testing Technical Committee Member for Steel and Alloy of National Steel Standardization Committee. NCS has undertaken many projects of National Development and Reform Committee and The Ministry of Science and Technology of the People's Republic of China. There are more than 300 persons,who are leaded by Wang Haizhou,academician of the Chinese Academy of Engineering (CAE), in scientific research team, including 18 professors, 101 senior engineers and 36 doctors. They wholeheartedly engage in the exploration and development of industry leading technologies and products. In addition, NCS has undertaken some key projects in rapid transit railway, commercial aircraft and Beijing Olympic Games.The headquarter of NCS is located in Haidian District, Beijing. There are several R&D and production bases in Beijing, Shanghai, Hebei and Shandong. Moreover, it owns 23 directly subordinated marketing and after-sales service sites covering the whole country to supply most perfect and convenient service for users.

NCS is constantly aiming to completely and constantly promote products and services quality, realize the maximization of all-round values, and become a guilder and impeller in metal material testing fields.

Looking ahead, NCS will build on current success to make further progress and work with all the stakeholders for a more splendid future!

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SparkCCD 7000

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SparkCCD 7000 is widely used for production process control and finished product lab testing in such fields as metallurgy, casting, machinery and metal processing. It can be used for chemical composition analysis of Ferrum, Aluminum, Copper, Nickel, Cobalt, Magnesium, Titanium, Zinc, Lead, Stannum, Silver and other metals and alloys.

Overview

SparkCCD 7000 Spark Optical Emission Spectrometer uses high-resolution linear CCD (Charge-coupled Device) to perform full-spectrum scanning. Using intelligent control argon-flushed light chamber system, instrument performance more stable, longer service period. The abundance of spectral lines makes the analysis unconstrained. The curve can subsection jump automatically, making seamless connection between different spectral lines of the same element. Expand the scope of analysis, the third element interference correction makes the element analysis more accurate. Its advantages include unrestricted by the photomultiplier arrangement, ability to test any elements without changing the hardware, and easy maintenance. Its excitation light source is a full digital solid-state light source with excitation energy and continuously adjustable frequency, suitable for various materials, and NET-based acquisition with better adaptability.

Characteristics

01 Full-digital solid-state light source with excitation energy and continuously adjustable frequency, suitable for various materials

02 A full spectrum detection of spectral lines within available ranges is carried out by using a multi-chip staggered layer of linear array CCD with special coatingSingle plate lens holder, greatly reducing contamination to light chamber during wiping

03 Fast network port acquisition, control speed and stronger versatility

04 Programmable control Argon-flushed chamber detection technology designed to improve long-term operational stability

05 Copper spark stand base with better heat radiation and durability

06 Low consumption of argon, no pressure fluctuation, no noise, and short cold startup time

Technical specifications and advantages

Optical system

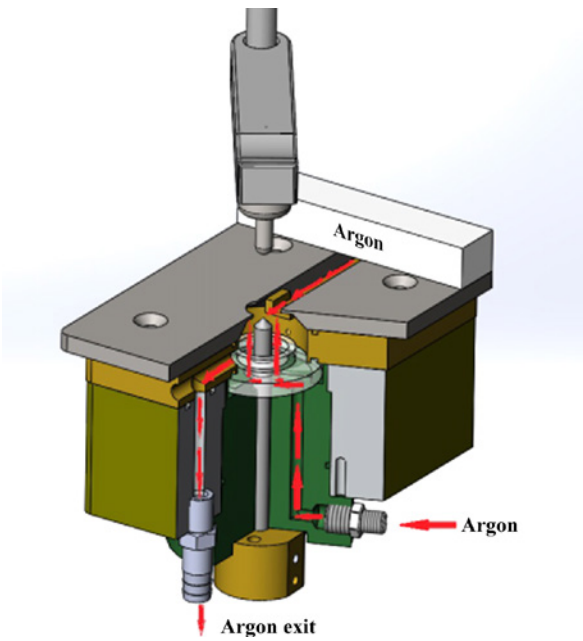
- Paschen-Runge mounting
- Focal distance of optical grating: 500mm
- High luminous holographic grating, 2700 grooves/mm;
- Spectral line range: 130-800 nm
  (N, Li, Na and K elements can be analyzed)
- Dispersive power:
  Class I dispersive power: 0.74nm/mm;
  Class II dispersive power: 0.37nm/mm
- Resolution: 0.005926nm
- Not limitated by testing channels
- Detector with multiple CCDs
- Using constant temperature system, temperature control accuracy ±0.1℃

CCD Detector

- High resolution CCD detector
- 3648 single-chip CCD pixels
- Single pixel size is only 8μm

New Monitoring System

- Brand new system monitoring of instrument status that displays the instrument status and work progress below the software
- Operation simple and quick, easy to maintenance and debugging.



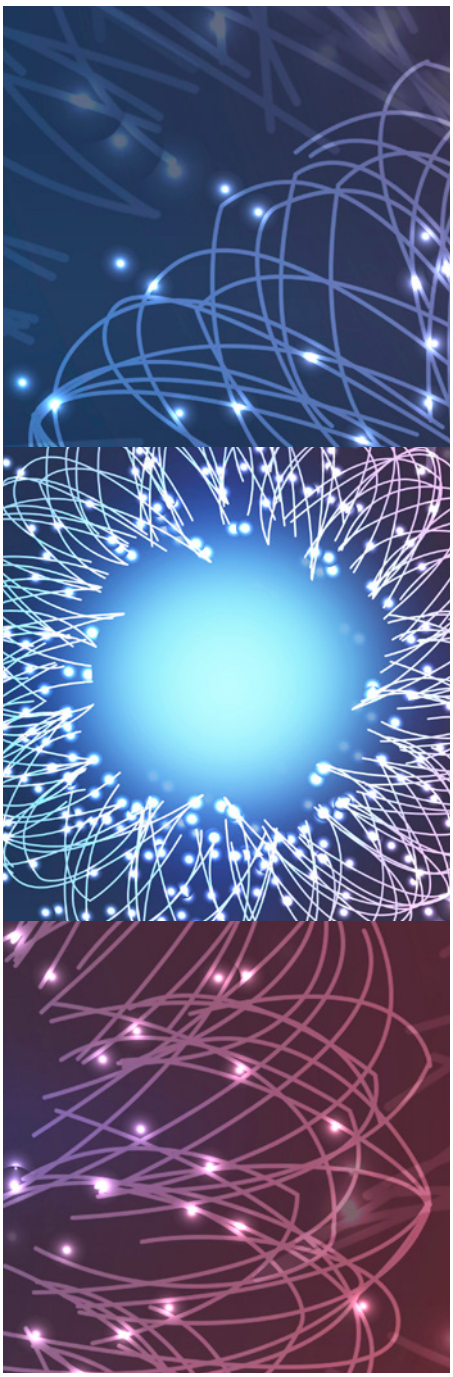
Spark stand

- Maximum weight of sample: 50kg.
- Newly designed coaxial spark stand with optimized internal gas circuit to greatly reduce argon consumption. Self-purging function that keeps the cavity clean.
- Integrated lens isolation valve for easy replacement and preventing strength degradation caused by routine maintenance.
- Specially-designed discharge chamber to ensure discharge under optimal conditions.

Technical specifications and advantages

Spark excitation source

- Discharge parameters protected by passwords.
- Continuously adjustable light source frequencies, energy and other parameters.
- Maximum discharge frequency: 1000Hz.
- MTBF ＞ 5000 hours



Integral acquisition

- NET-based port data acquisition for stable data transmission and low configuration
- Multi-thread data acquisition to improve the stability of the software and data reliability.

Programmable Control Argon-flushed Chamber

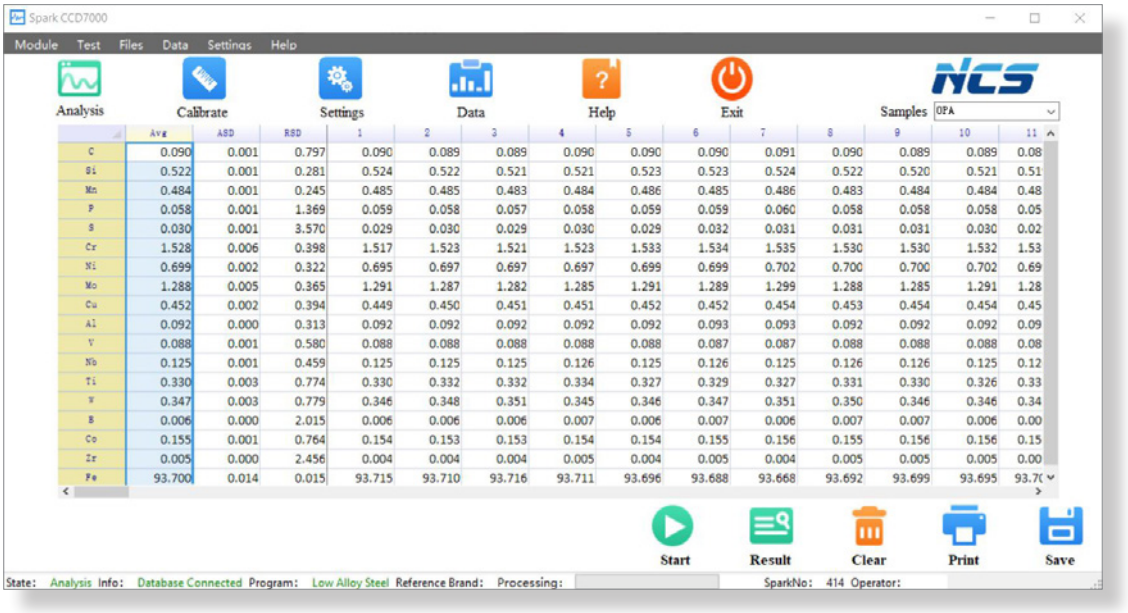
- Adoption of brand new cast optical chamber with extremely low thermal expansion coefficient and high instrument stability
- Programmable control Argon-flushed chamber
- Cold machine (shut down for 12 hours) start 30min, hot machine start 5min

Argon gas consumption

- Programmable argon-filled system with short argon-flushing time and low consumption
- Brand new argon gas utilization system
- Ultra-low standby flow of 60ml/min, a bottle of argon can be used 70 days for 24 hours standby

Analysis software

- Calculation of same elements from various matrixes with different curves ;
- User-friendly English language software;
- Self-developed automatic burden proportioning software for automatic generation of burden proportioning plans based on testing results.
- Material identification
- Support automatic calculation function such as carbon equivalent



Communication device

A variety of communication modes to meet different user needs and data transmission to remote terminals or printers for online analysis, remote monitoring, diagnosis and maintenance.

Basic parameters of instrument

Power supply	220V±10%, single-phase 16A, 2.5KVA
Outline dimensions	870(L)×470(W)×440mm(H)
Weight	About 80Kg
Operating environment	Temperature: 20-25℃ Humidity: less than 70%
Argon purity	≥99.999%

High-quality Creates Better Life

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