KS-TY9000 Optical Emission Spectrometers

(Picture just for reference)

1. Summary

KS-TY9000 is Full Range of Solutions for the Entire Metals Industry. It use full-digital technology to replace bulky photo multiplier tube (PMT) simulation technology and keep pace with international spectrometer technology. The adoption of vacuum optical chamber design, full-digital excitation light source, advanced CCD detectors, and high-speed data readout system equips the device with high properties, ultra-low limit of detection (LOD), long-term stability and repeatability. The analytical precision can meet the requirements of laboratory standard, the analytical date is stable and reliable. Widely used in Metallurgy, casting, machinery processing and other industries incoming and outgoing product quality control.

2. Scope of supply

2.1 Supply list

No.	Item	Specifications	QTY	Unit	Remarks
1	Optical Emission Spectrometer	KS-TY9000	1	Set	Include in quotation.
2	Business computer		1	Set	
3	Printer		1	Set	

4	Tungsten electrode		1	Pc	
5	Electrode pressure spring		1	Pc	
6	The electrode fixed screw		2	Pcs	
7	Electrode brush	Φ6	2	Pcs	
8	Lens holder sealing ring	Φ16×2.65	2	Pcs	
9	Lens holder sealing ring	Φ72×2.65	1	Pc	
10	Exhaust gas filter core		1	Pc	
11	Degreasing cotton		15	G	
12	Power socket		1	Pc	
13	M2 Internal hexagonal wrench		1	Set	
14	M4 Internal hexagonal wrench		1	Set	
15	Long handle phillips screwdriver		1	Pc	
16	13－15 fixed wrench		1	Pc	
17	Spark machine screw	M6	4	Pcs	
18	Fuse	10A	2	Pcs	
19	Argon gas pressure reducing valve		1	Pc	
20	Argon gas pipeline		2	M	
21	Exhaust pipe		1	Pc	
22	Gas bottle		2	Pcs	
23	Print paper		1	Pc	
24	Spectrometer manual		1	Set	

Notes: The Buyer knows and agrees that the Seller may adjust the supply when the production of the above-mentioned instruments, spare parts and other suppliers change due to technological progress, product upgrading, market changes, etc.

2.2 Optional items:

Optional item	Qty	Note
High purity argon gas (pure ≧ 99.999%)	1 bottle	Should prepare by customer. If can't get should use argon purifier to get 99.999% argon gas.
Small air conditioning	1 set	Essential, customer should prepare by themselves.
High precision magnetic saturation voltage stabilizer (1KVA)	1 set	Need for voltage instability, if the customer uses intermediate frequency furnace, then need 3KVA Voltage Stabilizer
Argon purifier	1 set	When argon gas is not as pure as 99.999%.
Samples grinder (ferrous metals) or Mini lathe (non-ferrous metals)	1 set	Essential
Type samples	pieces	Essential for foundry

Please select according to your requests:

OES Analytical Program

No	Elements	Low Alloy Steel	Cast Iron
1	C	0.006-1.6	1.81-4.5
2	Si	0.0014-2.57	0.15-3.96
3	Mn	0.021-19.74	0.114-3.42
4	P	0.0032-0.135	0.021-0.82
5	S	0.0013-0.111	0.003-0.211
6	Cr	0.002-12.42	0.03-2.5
7	Ni	0.0107-4.0	0.01-4.77
8	Mo	0.004-3.98	0.003-1.7
9	Al	0.003-1.29	0.002-0.214
10	Cu	0.0032-0.7	0.06-1.73
11	Co	0.0088-0.5	0.0046-0.14
12	Ti	0.001-0.297	0.004-0.5
13	Nb	0.0057-0.506	0.003-0.33
14	V	0.0082-1.26	0.0014-1.13
15	W	0.05-1.97	0.001-0.97
16	Mg		0.0001-0.1
17	B	0.0017-0.0083	0.002-0.26
18	Sn	0.0035-0.054	0.0007-0.563
19	Zn	0.002-0.04	0.001-0.0055
20	As	0.0019-0.056	0.002-0.26
21	Bi	0.0002-0.013	0.0017-0.05
22	Zr	0.005-0.41	
23	La		0.0002-0.023
24	Ca	0.0001-0.055	
25	Ce	0.0002-0.019	0.0002-1.81
26	Sb	0.0004-0.01	0.004-0.2
27	Fe	Reference	Reference

Notes:

1. The elements highlighted in orange are available normally, those in blue can be added according to the standard sample available or not.

2. The analysis curves highlighted in green can be added according to current stand samples in the markets, those highlighted in orange are available normally, and it can meet 80% customer's need.

3. Numbers of Elements added or channels are depended on the price.

4. For special material beyond the detection range of elements and measurement, buyer and supplier can make a decision on the internal control standard.

5. Due to the lag of the national standard material, the elements will be carried out according the original standard before new material coming out.

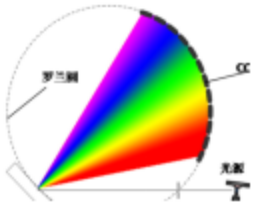
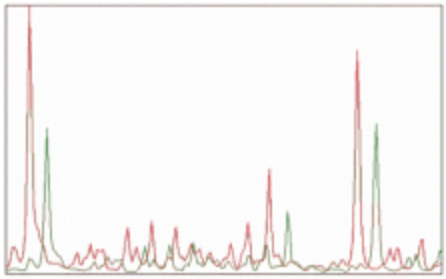
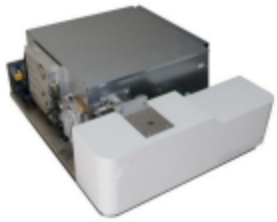
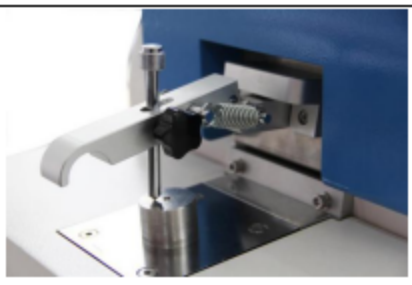
6. The final explanation right of element table and measuring range belongs to KASON Group.

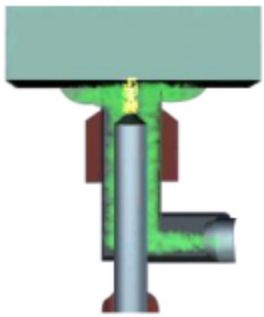
3. Technical Data of KS-TY9000

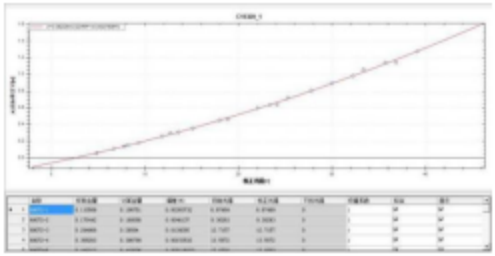
3.1 Parameter

Item		Index
Optical System	Focal Length	400mm
	Wavelength range	165~589nm (Extendable)
	Detector	High resolution CCD Multi detectors
	Degree of vacuum	Auto control within 6-20 pa
	Pixel resolution	30pm
	Grating line	2400m1/mm
	First order spectral line dispersion rare	1.2nm/mm
	Average resolution ratio	10pm/pixel
	Full spectrum	
	Light room 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	Fe、Al、Cu、Ni、Ti、Co、Zn、Sn、Mg、Pb etc
	Dimension	800mm(L)*700mm*470mm(H)
	weight	About 100kg
	Storage temperature	0℃-45℃
	Operating temperature	10℃-35℃, 23±2℃ is recommended
	Power	AC220V/50Hz(Customized)
	Power consumption	Excitation:700W/Stand by:100W
	Argon quality	99.999%, Argon pressure>4Mpa
	Argon consumption	5L/min during spark mode
	Interface	Ethernet data transmission based on DM9000A

3.2 Main features

1.Optimized vacuum optics system (1) Integrated optics room and Paschen Runge construction design, making all the spectrum lines focused on the gratings. (2) Direct-jet type optics technology and MgF2 material lens to make sure ultraviolet wave's best energy of elements, such as C,S, P and N.	
2. Automatic Light-Path Correction (1) With automatic light path correction, optical system automatically scans the spectral lines to ensure the correctness of received lines and avoid tedious scanning of wave peaks. (2) The instrument automatically identifies specific spectral lines and compares them with original stored lines to determine the location of the drift and find the present pixel position for analysis among the lines.	
3. Single-Board Lens Design (1) The adopted specialized entrance window separating from vacuum in the vacuum optical system can be operated under the system working status. The adopted single-board lens structure in the optical lens is convenient for routine cleaning and maintenance. (2) It is not required to maintain the device in the daily operation, and there is no consumable and renewal part.	
4. Optical Chamber Integration (1) Specialized optical chamber structural design makes the volume of the chamber smaller, with less than half air exhaust speed of ordinary spectrometers. (2) Integrated design and high-precision processing in the vacuum chamber improves the duration of vacuum.	
5. Vacuum Anti-Oil-Returning Technology (1)Multi-level separating vacuum anti-oil-returning technology absorbs vacuum compaction and baffle valves to ensure the complete separation of vacuum optical chamber from vacuum pump during non-operation time. (2) The intermediate addition of vacuum oil filtering device ensures the oil inside the vacuum pump not to enter the vacuum chamber, and ensures CCD detectors and optical components to work under reliable situation.	
6. Open-Access Inspire Stand (1)Flexible sample clamp design of Open-Access Excitation Stand satisfies user on-site analysis of samples with different sizes and shapes (2) The small sample clamps in cooperative use can make the analytic precision of wire rods achieve 1.5 mm at the minimum.	

7. Injection Electrode Technology (1)The instrument adopts the most internationally-advanced injection electrode technology with tungsten used. Under the status of excitation, the electrode forms argon gas injection flow surrounded. Thus, there is no opportunity for the surrounding excitation points to contact external air so as to improve precision of excitation. (2) The attached specialized argon gas channel design significantly reduces the usage amount of argon gas and use cost for customers.	
8. Integrated Gas Channel Block (1) The excitation stand is made of alloys with good heat dissipation to achieve solidity, durability and cleaning convenience. (2) The gas supply system adopts integrated gas channel block and electrode self-flushing function to create good environment for excitation.	
9. Full Digital Inspire Light Source (1) The system uses the most internationally-advanced plasma inspire light source, and generates ultra-stable energy release to excite samples in the environment filled with argon gas. (2) Full Digital Inspire Light Source ensures ultra-high resolution and high-stability output rate of plasma in the excitation samples. (3) Full Digital Inspire Light Source can satisfy inspire requirements for different type of materials.	
10. High-Speed Data Acquisition (1)The instrument adopts high-performance CCD devices, UV coating technology and high-performance FPGA, DSP and ARM processors. (2)The system has ultra-high functions of data acquisition and analysis, and can realize automatic real-time monitoring and control of the block operation status of optical chamber temperature, vacuum degree, argon gas pressure, light source and excitation chamber.	
11. Ethernet Data Transfer (1) Ethernet cards and TCP / IP protocol are connected between computers and spectrometers to avoid electromagnetic interference, fiber aging defects. Meanwhile, the computers and printers are completely placed in external position for the benefit of promotion and substitution. (2) Complete network systems. (3) The system can remotely monitor the status of devices, operate the system through multiple channels, as well as	

control and monitor all the instrumental parameters.	
12. Pre-Set Working Curves (1) The analysis programs in terms of elements and materials exist slight difference. The parameters of excitation and measurement have been adjusted before delivery. Customers can automatically choose optimal measurement conditions according to analysis programs. (2) Over a long period of time, the factory has been accumulating a large amount of experience and comprehensive international standard sample base. The factory pre-sets the working curves before delivery to benefit customers to put the device into use immediately after receiving. (3) The analysis range is attached to the technical specification (the system can plot or prolong working curves for free according to samples provided by customers).	
13. Fast Analysis Speed (1) The fast analysis speed saves time for customers by finishing the element component analysis through all channels within 20 seconds. (2) According to the specific type of materials to be analyzed, it is available to make the instruments achieve the best analysis results within the minimum duration by setting pre-burning time and measurement time.	
14. Multiple Matrices Analysis (1) The light-path design absorbs the structure of Rowland circle and vertically interleaved CCD arrays to ensure all the spectral lines to be received. No hardware is required to realize analysis of multiple matrices. (2) It is convenient to add up matrices, material types and analysis elements according to the requirements of production. (3) Compared with photomultiplier tubes (PMTs), spectrometers can significantly decrease use cost and increase the range of usage.	
15. Software with Multiple National Languages (1) The instrumental operating software is completely compatible with Windows system, and can be equipped with specific language versions according to user requirements. (2) The software is easy to use. Even those staff without any knowledge and experience about spectrometers can easily use the software after a short simple training.	

19 YEARS

Professional focused on testing equipment

KASON is established in 2003,owns more than 8000 square meters factory.has a professional sales teams, modern enter prise technology center,scientific and technological research and development team.

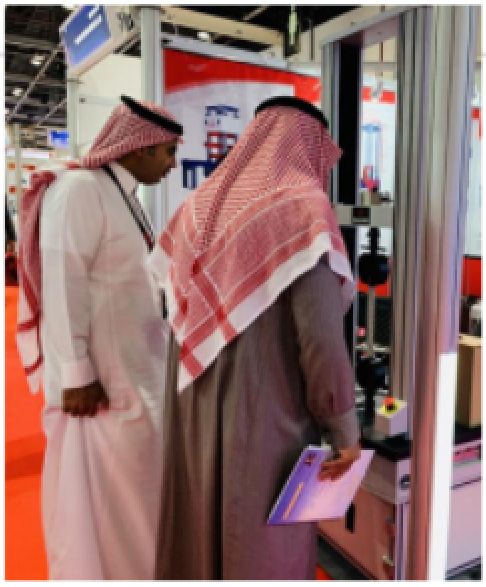
Machines passed the European CE authentication,American FDA certificate and and ISO 9001.

Products sold to USA, Canada, Australia, Europe, Africa etc,more than 130 countries and supply OEM service for many customers

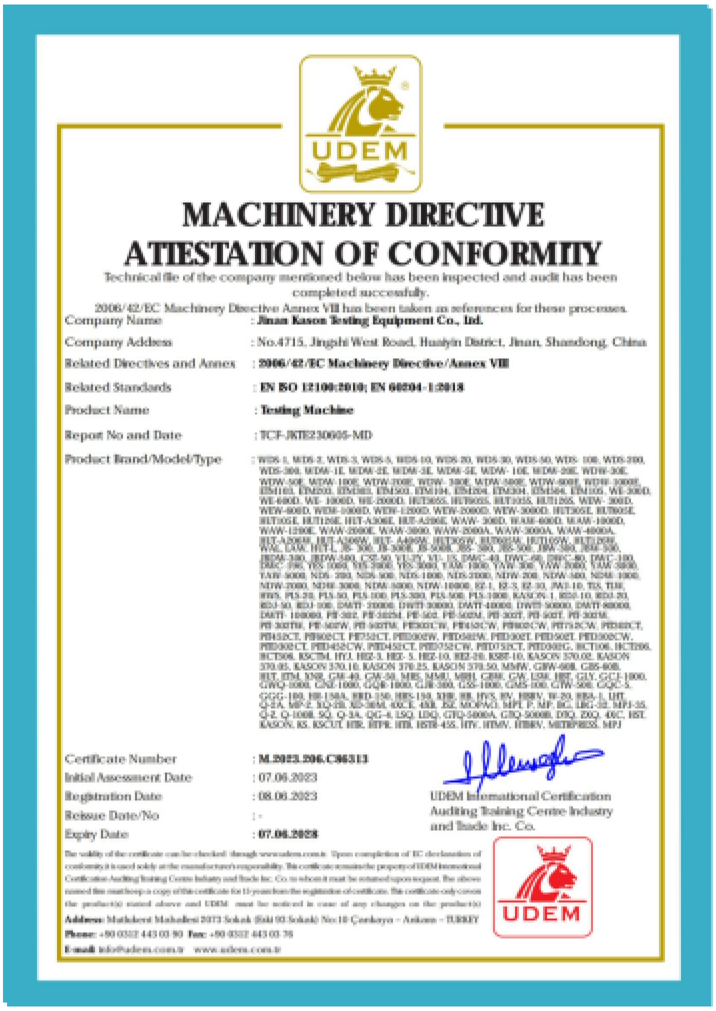
PROFESSIONAL TEAM

KASON has a professional sales teams, modern enter prise technology center,scientific and technological research and development team.

OUR CUSTOMERS (more than 130 countries)



OUR CERTIFICATE (CE / ISO / SGS)



UDEM

MACHINERY DIRECTIVE
ATTESTATION OF CONFORMITY

Technical file of the company mentioned below has been inspected and audit has been completed successfully.

2006/42/EC Machinery Directive Annex VIII has been taken as references for these processes.

Company Name	: **Jinan Kason Testing Equipment Co., Ltd.**
Company Address	: No.4715, Jingshi West Road, Huaiyin District, Jinan, Shandong, China
Related Directives and Annex	: **2006/42/EC Machinery Directive/Annex VIII**
Related Standards	: **EN ISO 12100:2010; EN 60204-1:2018**
Product Name	: **Testing Machine**
Report No and Date	: TCF-JKTE230605-MD
Product Brand/Model/Type	: [illegible]
Certificate Number	: **M.2023.206.C86313**
Initial Assessment Date	: 07.06.2023
Registration Date	: 08.06.2023
Reissue Date/No	: -
Expiry Date	: **07.06.2028**

UDEM International Certification Auditing Training Centre Industry and Trade Inc. Co.

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中标华信(北京)认证中心
CSHCC.CN

Authentication Certificate of
Quality Management System

Registration No.19922Q01072R0S

This is to certify that

Jinan Kason Testing Equipment Co., Ltd.

Unified Social Credit Code: 91370104589949939X0
Registered/Production Address: No. 4715, Jingshi West Road, Huaiyin District, Jinan City, Shandong Province
Office Address: Room 2-1108, Harmony Square, Huaiyin District, Jinan City

Is in conformity with:

GB/T 19001-2016/ISO 9001:2015

The certificate is valid for the following scope:
Assembly and sales of testing machines

This certificate should be used effectively with the legal requirements of the administrative license, qualification license, compulsory certification, which the certification scope involved.
In the case that the organization regularly receives surveillance assessments, the certificate shall be valid when used together with the Quick Response Code.

Date of Issue: 2022-07-19
Date of Expiry: 2025-07-18
Date of Initial Certification: 2022-07-19

General Manager

IAF CNAS 中国认可 国际互认 管理体系 MANAGEMENT SYSTEM CNAS C182-M

China Standard Huaxin (Beijing) Certification Center Co.,Ltd.

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