



AUTOMATIC SPARK DIRECT READING SPECTROMETER ANALYSIS SYSTEM

CODE RBT-OES01

CUSTOMIZED ACCORDING TO THE CUSTOMER'S WORKPIECE



- 6-axis industrial robot for high speed and precision, IP67, triple protection
- The park direct-reading spectrometer automatically analyzes the elemental composition of the workpiece and provides real-time data to the control system
- Control system Modbus Tcp via bus communication, high speed, high efficiency and easy to extend

STANDARD DELIVERY

Robotic system	robot body	1 pc
	robot control cabinet	1 pc
	programming guide	1 pc
Spark direct reading spectrometer	main unit	1 pc
	computer	1 set
	printer	1 pc
	voltage regulator	1 pc
	calibration sample	1 set
	electrode brush (OES-R420-BR)	1 pc
	analysis and calibration software	1 set
	consumable and spare parts	1 set
	Control touch screen	1 pc
	Control box	1 pc

OPERATION PROCESS

- Step 1: Place the workpiece manually on the positioning block in the loading area.
- Step 2: Press the reset button to return the robot and cylinder to the initial position.
- Step 3: Press the start button, the system prompts whether the workpiece is correctly placed and click OK.
- Step 4: The robot grabs the workpiece and places it in the testing station.
- Step 5: The spectrometer starts the test and analysis, then outputs the measurement results.
- Step 6: The robot grips the workpiece and fine-tunes the testing position, then the spectrometer carries out another test and analysis.
- Step 7: After five cycles of testing and analysis, the robot places the workpiece at the OK or NG position according to the measurement results.

OPTIONAL ACCESSORY

Spectral standard sample	MSS series	select standard sample based on the test material
Spectral sample grinder	OES-MY100	Ø350mm, 380V
Lathe	OES-R420-LATHE	220×300mm, 220V
Gasket	OES-R420-GASKET1	copper, ID6mm
	OES-R420-GASKET2	copper, ID8mm
	OES-R420-GASKET3	boron nitride, ID4mm
	OES-R420-GASKET4	boron nitride, ID6mm

SPECIFICATION

Robot	robot arm spreading	720mm
	Max. working speed	4000mm/s
	Max. weight of workpiece	8kg
	repeat positioning accuracy	±0.02mm
	number of control axis	6
Spark direct reading spectrometer	communication protocols	Ethernet Modbus Tcp
	standard curve	low alloy steel (A1), plain stainless steel (A2) and Al-Si-Cu alloy (B1)
	customized curve	curves can be added or customized for special base materials (Mg, Ti, Pb, Sn, Mn, etc.)
	spectral range	160~500nm
	lightroom material	cast aluminum
	detector	multiple CCD detectors, unlimited maximum number of detection channels
	optical system construction	paschen-runge construction, grating focal length 500mm, roland circle diameter: 500mm
	raster scribing	2700 lines/mm
	resolution	better than 0.01nm (line resolution 0.7407nm/mm, pixel resolution 0.005926nm)
	pixel dimension	8µm
	dispersion	class I: 0.74nm/mm
	excitation frequency	20~1000Hz
	excitation current	90A
	excitation voltage	190V
	discharge parameter	inductance: 120µH, resistance: 3.5Ω, capacitance: 5µF, voltage: 380V
	spark stand dimension	125×95mm, max. load 50kg
	lens	one-piece lens isolation valve
	excitation electrode	tungsten electrode
	argon quality	purity: 99.999%, pressure: ≥0.6MPa
	flow rate	tidal flushing mode, excitation: 8L/min, standby: 60ml/min
Work environment		20~25°C, <70%RH
Power supply		AC220V, 50Hz, 1Ø, 16A

TEST CURVES**

Fe base curves	A1	A2	A3	A4	A5		
	Low alloy steel***	Plain stainless steel	High speed tool steel	Cr/Mn stainless steel	Nodular iron		
Al base curves	B1	B2	B3	B4			
	Al-Si-Cu	Low-Al	Al-Mg-Si	Al-Zn			
Cu base curves	C1	C2	C3	C4	C5	C6	C7
	Zn-Brass	Pb-Brass	Sn-Bronze	P-Bronze	Al-Bronze	Cu-Ni alloy	Cu-Ni-Zn alloy
Ni base curves	D1	D2	D3	D4			
	Nimonic alloy	Inconel alloy	Monel alloy	Hartz alloy			
Co base curves	E1	E2	E3	E4			
	Co-Cr-W	Co-Cr-Ni-W	Co-Ni-Cr-Mo	Co-Cr-Mo			
Zn base curves	F1	F2					
	Die-casting zinc alloy	Zinc-Aluminum alloy					

**Low alloy steel (A1) ,Plain stainless steel (A2) and Al-Si-Cu (B1) are standard curves, and all others are optional
The specific range of curve elements is shown in the attached curve table

***Low alloy steel (A1) includes carbon and medium-low alloy steel