PORTABLE SPARK DIRECT READING SPECTROMETER
CODE OES-P200



- Widely used in metallurgy, foundry, machining, automobile manufacturing, metal processing, furnace testing, etc.
- Ability to accurately analyze the elemental content of metallic materials such as C, P, S, B, etc.
- Automatically eliminates spectral drift due to temperature and pressure changes for accurate measurements
- Unique jet electrode technology, can save the use of argon gas, reduce the use of costs
- Replaceable lithium batteries, long battery life, hundreds of consecutive excitation times, to ensure the integrity of the field work
- The instrument is easy to carry, analysis is not limited, more convenient to complete outdoor work

STANDARD DELIVERY

Main unit	1 pc
Computer	1 pc
Analysis software	1 pc
Battery	2 pcs
Electrode brush (OES-R420-BRUSH)	2 pcs
Pressure valve	1 pc
Mobile cart	1 pc
Charger	1 pc
Consumable and spare parts	1 set*

*Including lens, mirror paper, wrench, air connection line and other common consumables



spectral sample grinder **(optional)**

OPTIONAL ACCESSORY

Spectral standard sample	**MSS series**	select standard sample based on the test material
Spectral sample grinder	**OES-MY100**	Ø350mm, 380V

SPECIFICATION

Curves	**Standard curve**	low alloy steel **(A1)**, Cr-Ni stainless steel **(A2)**
	Customized curve	curves can be added or customized for special base materials (Ni, Mg, Zn, etc.)
Optical system	**Detector**	high performance CMOS
	Optical system construction	paschen-runge double optical chamber structure
	Visible room temperature	34°C±0.5°C
	UV room temperature	34°C±0.5°C
	Raster scribing	3600 lines/mm
	Spectral range	165~580nm
	Average resolution	≤10pm/pixel
	Visible focal length	300mm
	Ultraviolet focal length	298mm
Excitation source	**Light source**	high energy excitation light source
	Frequency	100~1000Hz
	Excitation voltage	300V
	Excitation current	400A
Excitation stand	**Gas supply**	argon (purity≥99.9995%, pressure: ≥0.3MPa)
	Flow rate	excitation: 3L/min, standby: 0.3L/min
	Electrode	tungsten electrode
	Purge	automatic cleaning
	Design	self-compensating thermal deformation design
	Analysis interval	2.8mm
Analysis software		•automatic calibration control according to the given deviation and number of excitations •the analyzed results show the percentage, light intensity values, intensity ratios •electrode cleaning according to set data, display and corresponding deviation •ability to store and print test element results
Transmission		DM9000A-based ethernet data transmission
Work hours		standby: 10h, continuous excitation: 160~180 times
Work environment		5~35℃
Power supply		replaceable lithium battery, 24V
Dimension (LxWxH)		840×700×1050mm
Net weight		50kg

TEST CURVES*

Fe base curves	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**
	Low alloy steel**	Cr-Ni stainless steel	High speed tool steel	High Mn steel	High Cr cast iron	High Ni cast iron	Cast iron
Al base curves	**B1**	**B2**	**B3**	**B4**	**B5**		
	Low-Al	Al-Si	Al-Zn	Al-Cu	Al-Mg-Si		
Cu base curves	**C1**	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**
	Brass	Copper	Al-Cu	Beryllium Bronze	Sn-Pb-Cu	Pure copper	Si-Bronze

*Low alloy steel **(A1)** and Cr-Ni stainless steel **(A2)** 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

OES-P200 TEST CURVE TABLES

FE BASE CURVES

Curve number	A1	A2	A3	A4	A5	A6	A7
Elemental content (%)	Low alloy steel*	Cr/Ni stainless steel	High speed tool steel	High Mn steel	High Cr cast iron**	High Ni cast iron**	Cast iron**
C	0.006-1.3	0.008-2.5	0.08-2.2	0.5-2.4	0.9-3.4	1.2-3.8	1.8-4.5
Si	0.01-2.9	0.09-4.0	0.04-1.5	0.3-1.7	0.2-2.5	0.04-3.5	0.2-4.2
Mn	0.03-14	0.12-16	0.04-1.7	5.3-23	0.1-2.4	0.001-6.8	0.06-4.7
P	0.002-0.12	0.003-0.3	0.004-0.007	0.01-0.2	0.01-0.3	0.0015-0.56	0.02-0.8
S	0.002-0.46	0.001-0.4	0.001-0.06	0.006-0.11	0.01-0.15	0.0015-0.24	0.003-0.2
Cr	0.01-12.5	7.4-32	1.8-8.1	0.08-3.8	0.4-34	0.0015-9.1	0.03-2.8
Ni	0.004-4.4	0.8-40	0.07-0.55	0.04-3.5	0.05-2.75	0.9-36.6	0.05-5.1
Mo	0.004-1.76	0.08-4.2	0.02-9.4	0.1-2.0	0.1-4	0.0015-1.5	0.01-2.1
Al	0.003-0.5	0.005-1.7	0.005-1.6	0.008-0.12	-	-	0.002-0.25
Cu	0.002-0.7	0.05-4.5	0.04-0.5	0.02-0.6	0.06-1.5	0.005-0.3	0.06-2.0
Co	0.001-0.5	0.008-0.62	0.008-16	0.007-0.1	-	-	0.008-0.03
Ti	0.002-0.5	0.005-1.1	-	0.004-0.4	0.01-0.14	-	0.007-0.7
Nb	0.002-0.53	0.02-2.0	-	0.08-0.42	0.1-0.7	0.003-0.38	0.002-0.7
V	0.003-0.9	0.02-0.58	0.03-2.5	0.01-0.84	0.02-1.2	-	0.01-0.7
Ca	-	-	-	-	-	-	-
B	0.006-0.02	0.007-0.02	-	-	-	-	0.002-0.3
Sn	0.001-0.09	0.003-0.05	-	-	-	-	0.003-0.3
As	0.001-0.1	0.004-0.04	-	-	-	-	0.008-0.09
Sb	0.002-0.02	-	-	-	-	-	0.004-0.2
Fe	REF	REF	REF	REF	REF	REF	REF

*Low alloy steel **(A1)** includes carbon and medium-low alloy steel
**Cast iron samples are required to be whitening treated samples

AL BASE CURVES

Curve number	B1	B2	B3	B4	B5
Elemental content (%)	Low-Al	Al-Si	Al-Zn	Al-Cu	Al-Mg-Si
Si	0.01-1.63	0.02-24	0.02-9.4	0.02-7	0.02-2.3
Fe	0.01-1.65	0.02-4	0.03-1	0.05-1.9	0.07-0.80
Cu	0.002-1	0.005-6	0.01-4.3	0.01-13	0.07-1
Mn	0.001-1	0.005-1	0.02-1	0.05-1	0.03-2.4
Mg	0.002-1	0.01-1.5	0.01-4	0.01-2.7	0.006-10.2
Cr	0.001-0.15	0.005-0.5	0.01-0.4	0.01-0.14	0.01-0.4
Ni	0.001-0.16	0.02-2.5	0.01-0.2	0.01-2.3	0.005-0.25
Zn	0.002-0.5	0.005-3.5	0.01-12	0.05-3.5	0.01-1
Ti	0.001-0.15	0.005-0.4	0.005-0.3	0.001-0.2	0.007-0.3
Ca	-	0.002-0.03	-	-	-
Cd	0.01-0.3	0.001-0.3	0.002-0.3	0.01-0.3	0.01-0.3
Ga	0.002-0.06	0.005-0.2	-	-	0.009-0.02
Pb	0.02-0.5	0.005-0.5	0.005-0.5	0.01-0.5	0.001-0.5
Sb	-	0.005-0.4	-	-	-
Sn	0.01-0.2	0.003-0.5	0.005-0.2	0.02-0.3	0.007-0.2
V	0.004-0.05	0.005-0.2	0.005-0.03	0.01-0.03	0.002-0.03
Zr	0.001-0.12	0.005-0.2	0.01-0.3	0.001-0.2	0.003-0.12
P	-	0.002-0.005	-	-	-
Al	REF	REF	REF	REF	REF

CU BASE CURVES

Curve number	C1	C2	C3	C4	C5	C6	C7
Elemental content (%)	Brass	Copper	Al-Cu alloy	Beryllium bronze	Sn-Pb-Cu alloy	Pure copper	Si-Bronze
Zn	0.5-43.0	0.01-23.0	0.04-2.2	0.005-0.23	0.003-0.7	0.001-0.3	0.2-6.0
Pb	0.01-6.0	0.002-0.13	0.002-0.068	0.005-0.3	0.001-21	0.001-1.5	0.01-0.8
Sn	0.009-4.8	0.009-0.13	0.003-0.35	0.005-0.18	0.005-11.2	0.001-0.3	0.05-0.7
P	0.002-0.14	0.003-0.07	-	-	0.001-0.42	0.001-0.078	0.005-0.08
Mn	0.001-5.3	0.009-1.1	0.001-3.1	-	0.001-0.4	0.001-0.1	0.2-1.8
Fe	0.02-3.0	0.03-1.03	0.005-6.0	0.02-0.28	0.003-0.028	0.001-0.2	0.1-1.7
Ni	0.009-1.8	5.5-32.5	0.005-6.0	0.005-0.35	0.001-1.0	0.001-0.5	0.05-1.0
Si	0.001-4.6	0.009-0.46	0.004-0.3	0.02-0.3	0.002-0.009	0.001-0.055	1.5-5.0
Mg	0.001-0.01	0.003-0.14	-	0.003-0.7	-	0.001-0.01	-
Cr	0.001-0.2	-	-	-	-	0.001-0.081	-
As	0.001-0.2	0.003-0.05	-	-	0.004-0.2	0.005-0.3	-