SPARK DIRECT READING SPECTROMETER (BASIC TYPE) CODE OES-T350

STANDARD CURVES: LOW ALLOY STEEL (A1), CAST IRON (A2), PLAIN STAINLESS STEEL (A3)

CURVES CAN BE CUSTOMIZED OR ADDED ACCORDING TO REQUIREMENTS

CURVES CAN BE CUSTOMIZED FOR SPECIAL BASE MATERIALS Ti, Pb, Sn, Co, ETC. (SAMPLES ARE NEEDED)

- Widely used in metallurgy, casting, machinery, scientific research, commodity inspection, automobile, petrochemical, shipbuilding, electric power, aviation, nuclear power, non-ferrous metal smelting, processing and recycling industries
- The full-spectrum technology covers the full range of element analysis, which can determine trace amounts of carbon (C), phosphorus (P), sulfur (S) and other elements
- The analysis speed is fast, and the element composition of all channels is measured within 20 seconds
- Paschen-Runge structure with full wavelength coverage, the most concise and stable optical system structure
- Perfect aberration correction, so that the spectrometer has excellent resolution, minimize the cross interference of different elements
- Argon-filled optical chamber, effectively reducing the attenuation of P and S rays in the far ultraviolet region
- The software has automatic spectrum correction technology, can store database, trace historical data, output and print reports
- Report format can be customized, data can be sent out

STANDARD DELIVERY

Main unit	1pc
Computer	1pc
Software	1pc
Printer	1pc
Calibration sample	1pc
Electrode brush	2pcs
Filter element	2pcs
AC voltage regulator	1pc
Pressure valve	1pc

OPTIONAL ACCESSORY

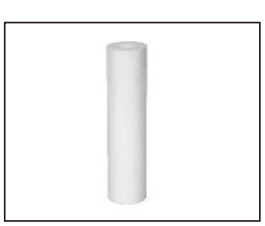
15# steel control sample	OES-KY235
Gray iron control sample	OES-KY282
Spectroscopic Grinder	OES-MY100
Argon purifier	OES-T350-PURIFIER

printer(included)

AC voltage regulator(included)

pressure valve(included)

electrode brush(included)



filter element(included)

calibration sample(included)

15# steel control sample**(optional)**

gray iron control sample**(optional)**

SPECIFICATION

Optical system	Optical structure	Paschen-Runge structure
	Rowland circle of diameter	350mm
	Wavelength range	160~510nm
	Detector	Multi high resolution CCD detectors
	Pixel resolution	20pm
	Full spectrum	Cover the full range of element analysis
	Light room temperature	34±0.5°C (be controlled automatically)
Spark source	Type	Digital arc and spark source/ New plasma generator
	Spark frequency	100~1000Hz
	Plasma current	1~80A
	Lgnition voltage	>7000V
Spark stand		Spray discharge electrode technology reduces argon consumption and improves argon use efficiency
		Good heat dissipation, continuous excitation for 100 times, the temperature of the excitation table does not rise more than 5°C
Others	Operating temperature	10~30°C, 23±2°C is recommended
	Operating humidity	20%~80%RH
	Power	AC220V/50Hz
	Power consumption	Excitation:300W, stand by:40W
	Argon quality	99.999% High purity argon, argon pressure≥4MPa
	Argon consumption	5L/min during spark mode
	Dimension(LxWxH)	700x660x340mm
	Weight	30kg

IRON BASE CURVES

Curve number	A1	A2	A3	A4	A5	A6	A7
Elemental content (%)	Low alloy steel	Cast iron*	stainless steels	High Mn steel	High Cr cast iron*	High speed tool steel	High Ni cast iron*
C	0.006-1.19	1.75-4.04	0.0035-1.0	0.0085-2.38	1.16-3.43	0.003-2.94	1.75-4.04
Si	0.013-3.86	0.2-3.88	0.095-2.41	0.091-1.69	0.055-2.48	0.014-0.967	0.2-3.88
Mn	0.034-2.2	0.08-1.67	0.131-16.13	5.3-22.96	0.201-1.95	0.018-0.846	0.08-6.72
P	0.0019-0.13	0.021-0.699	0.0057-0.065	0.0064-0.188	0.024-0.369	0.0038-0.098	0.0067-0.699
S	0.0009-0.364	0.003-0.22	0.0006-0.095	0.0047-0.108	0.0047-0.123	0.0005-0.076	0.003-0.22
Cr	0.016-4.83	0.021-2.48	6.8-32.58	0.084-29.22	1.17-33.9	0.023-14.16	0.021-2.56
Ni	0.0082-4.4	0.013-1.89	0.09-32.3	0.045-15.34	0.129-2.57	0.07-0.436	0.013-21.26
Mo	0.004-4.19	0.0018-1.08	0.026-6.09	0.0095-3.15	0.086-3.53	0.022-8	0.0011-1.08
Al	0.0021-1.27	0.0073-0.214	0.0057-0.403	0.009-0.403	-	0.032-0.128	0.0073-0.214
Cu	0.0032-0.8	0.018-1.83	0.014-4.22	0.025-1.9	0.154-1.57	0.018-0.364	0.018-7.46
Co	0.004-0.504	0.008-0.034	0.0067-0.69	0.007-0.107	-	0.014-12.3	0.0063-0.034
Ti	0.001-1.18	0.024-0.51	0.002-2.11	0.0041-0.545	0.08-0.3	0.003-1.47	0.024-0.51
Nb	0.004-1.04	0.023-0.576	0.024-2.41	0.0006-0.613	0.01-0.686	0.003-2.33	0.0006-0.576
V	0.0082-0.9	0.014-0.701	0.015-1.4	0.024-0.837	0.059-1.01	0.01-7.54	0.0085-0.701
W	0.005-2.07	0.023-0.574	0.0065-2.2	0.002-1.45	0.015-1.99	0.01-18.68	0.0002-0.574
Pb	0.003-0.26	0.002-0.105	0.0001-0.0037	0.0005-0.002	-	-	0.0022-0.105
Mg	-	0.0006-0.104	-	-	-	-	0.0006-0.104
B	0.0003-0.019	0.012-0.086	0.0007-0.016	0.0007-0.017	0.015-0.177	-	0.012-0.086
Sn	0.0016-0.039	0.0018-0.3	0.0007-0.054	0.0007-0.023	-	0.001-0.005	0.0003-0.3
Zn	-	0.0009-0.0045	0.0011-0.0084	-	-	-	0.0009-0.0045
As	0.007-0.174	0.0021-0.035	0.0013-0.03	0.0013-0.0116	-	-	0.0021-0.035
Bi	0.0019-0.021	-	0.00004-0.0029	0.0013-0.0029	-	-	-
Zr	0.004-0.57	-	-	-	-	0.003-0.01	-
Ca	0.0004-0.0015	-	0.0004-0.0010	0.0004-0.001	-	-	0.00035-0.2
Fe	REF	REF	REF	REF	REF	REF	REF

*Cast iron samples need to be whitened samples

ALUMINUM BASE CURVES

Curve number	B1	B2	B3	B4	B5
Elemental content (%)	Al low alloy	Al-Si alloy	Al-Zn alloy	Al-Cu alloy	Al-Mg alloy
Si	0.0084-1.58	3.69-20.5	0.027-8.23	0.029-1.57	0.021-0.885
Fe	0.0066-1.26	0.026-1.9	0.049-0.749	0.066-1.61	0.074-0.718
Cu	0.0041-0.99	0.01-8.04	0.005-2.71	0.465-6.57	0.0078-0.308
Mn	0.011-2.38	0.019-0.967	0.047-0.821	0.05-1.5	0.0085-0.865
Mg	0.004-1.5	0.049-1.8	0.01-3.96	0.0079-2.68	0.624-10.32
Cr	0.043-0.36	0.004-0.28	0.087-0.349	0.0099-0.272	0.0093-0.349
Ni	0.0084-0.152	0.0051-1.77	0.012-0.188	0.0084-1.55	0.0015-0.239
Zn	0.003-0.367	0.0064-2.93	0.955-16.5	0.0028-0.728	0.0071-0.571
Ti	0.0021-0.175	0.0071-0.31	0.0059-0.205	0.006-0.415	0.006-0.3
Pb	0.0011-0.0192	0.0025-0.31	-	-	-
Bi	-	-	-	-	-
Ca	-	0.0006-0.034	-	-	-
Cd	-	0.0013-0.12	0.003-0.04	0.062-0.245	-
Co	-	0.003-0.043	-	-	-
Ga	0.012-0.045	0.0054-0.2	-	-	-
Sn	-	0.0024-0.5	-	-	-
Sr	-	0.0002-0.167	-	-	-
V	-	0.005-0.175	-	0.017-0.253	-
Zr	-	0.0043-0.193	0.0084-0.241	0.0058-0.301	-
Ag	-	-	-	-	-
Be	-	0.0047-0.21	-	-	0.00056-0.013
In	-	-	0.014-0.084	-	-
P	-	0.0018-0.0074	-	-	-
B	-	-	-	0.0076-0.056	-
Al	REF	REF	REF	REF	REF

COBALT BASE CURVES

Curve number	C1	C2	C3	C4	C5	C6	C7	C8
Elemental content (%)	Brass	Aluminum Bronze	Sn-Pb-Cu Alloy	Red Copper / Pure Copper	Chromium Bronze	Beryllium Bronze	Silicon Bronze	Mn Brass
Zn	3.06-41.76	0.18-1.46	0.064-13.79	0.0006-0.0138	0.0068-0.111	0.0068-0.111	0.04-2.2	25.97-41.06
Pb	0.0082-4.48	0.013-0.094	0.159-21.42	0.0005-0.0426	0.0046-0.0718	0.0016-0.0718	0.01-0.2	0.054-0.51
Sn	0.032-1.02	0.025-0.22	2.33-18.96	0.00026-0.133	0.0072-0.0324	0.0072-0.0324	0.086-2.45	-
Mn	0.0046-0.464	0.31-1.8	0.001-0.067	0.001-0.0056	-	-	0.086-2.45	0.33-3.08
Fe	0.016-0.579	0.62-5.62	0.0014-0.467	0.0017-0.0782	0.033-0.124	0.014-0.124	0.065-0.51	0.69-3.28
Ni	0.0019-0.421	0.56-5.95	0.061-1.931	0.0011-0.05	0.014-0.192	0.0066-0.314	0.1-3.96	-
Si	0.0012-0.0938	0.032-0.26	0.0008-0.04	0.00088-0.0272	0.0066-0.153	0.0066-0.153	0.25-4.21	-
Mg	-	-	-	-	0.0014-0.126	0.0014-0.126	-	-
Cr	-	-	-	0.74-0.79	0.424-1.5	0.0074-1.5	0.021-0.37	-
As	0.0053-0.1	-	0.0111-1.07	0.0003-0.0376	0.0048-0.066	0.0048-0.066	-	-
Sb	0.0017-0.029	-	0.001-0.589	0.0001-0.0182	-	-	-	-
Cd	-	-	-	0.001-0.0272	-	-	-	-
Bi	0.00076-0.0122	-	0.0119-0.13	0.001-0.0095	-	-	-	-
Ag	-	-	0.0016-0.495	0.003-0.199	-	-	-	-
Co	-	-	0.0051-0.443	-	-	0.01-2.36	-	-
Al	0.015-0.81	7.8-11.88	0.001-0.052	0.0009-0.0023	0.0017-0.0223	0.0017-0.093	0.003-0.1	-
P	0.0018-0.044	0.011-0.1	0.002-1.208	0.00092-0.0695	-	-	-	-
S	-	-	0.0012-0.091	0.0034-0.127	-	-	-	-
Zr	-	-	-	0.113-0.203	-	-	-	-
Be	-	-	-	-	-	0.583-2	-	-
Cu	REF	REF	REF	REF	REF	REF	REF	REF

NICKEL BASE CURVES

Curve number	D1	D2	D3	D4	D5	D6
Elemental content (%)	Monel Alloy	Inconel Alloy	Hastelloy Alloy	GH30 Alloy	GH4169 Alloy	DZ125 Alloy
C	0.0494-0.13	0.01-0.169	0.01-0.169	0.137-0.241	-	0.0322-0.152
Si	0.146-2.52	0.036-0.85	0.2-0.85	0.311-0.895	-	0.016-0.042
Mn	0.993-1.437	0.05-1.19	0.249-1.19	0.156-0.777	-	0.0022-0.024
P	0.0106-0.019	0.0004-0.038	0.007-0.038	0.001-0.0152	-	0.0023-0.0024
S	0.0006-0.023	0.0002-0.034	0.0086-0.034	0.0034-0.0145	-	0.0005-0.0006
Cr	0.0057-0.2	14.86-29.5	15.42-19.71	16.81-20.56	14.87-22.21	6.57-19.62
Mo	0.0024-0.102	0.0025-20.91	15.59-20.91	-	2.29-4.03	0.63-4.32
Fe	1.053-2	1.2-18.51	2.6-7.3	0.229-1.780	-	0.022-1.023
W	-	0.0011-12.7	0.09-0.498	-	-	0.041-8.8
V	-	0.005-0.498	0.03-0.72	-	-	-
Al	0.0231-1.399	0.03-0.72	0.159-2.6	0.065-0.267	0.14-0.68	1.476-6.13
Co	0.032-0.156	0.0056-2.6	0.046-0.642	-	1.02-1.04	0.024-14.79
Cu	21.53-33	0.0072-0.642	-	0.082-0.245	0.0015-0.002	-
Nb	-	0.0039-5.16	-	-	3.85-6.79	0.028-2.04
Sn	-	-	-	-	-	-
Ta	-	-	-	-	-	2.74-4.82
Ti	0.064-1.005	0.017-0.93	0.06-0.264	-	0.59-1.42	0.62-5.1
B	-	0.0001-0.01	-	-	-	0.0062-0.0242
Mg	0.0026-0.0217	0.0021-0.022	-	-	-	-
Zr	-	0.0018-0.004	-	-	-	0.014-0.06
Pb	0.0004-0.02	-	-	-	-	-
Ni	REF	REF	REF	REF	43.89-60	REF

ZINC BASE CURVES

Curve number	E1	E2
Elemental content (%)	Pure Zn	Zn-Al Alloy
Al	0.00036-0.007	0.00036-27.4
Cd	0.00044-0.0132	0.00044-0.3
Cu	0.00012-0.004	0.00012-6.05
Fe	0.00012-0.004	0.00053-0.1
Mg	-	0.0014-0.179
Mn	-	0.001-1.39
Ni	-	0.0019-0.06
Pb	0.00045-0.0152	0.00045-2.87
Sb	-	0.0012-0.309
Sn	0.0004-0.0033	0.0004-2.38
Ti	-	0.0008-0.278
Si	-	0.0013-0.0191
Cr	-	0.0007-0.142
Ag	-	-
Bi	-	0.0027-0.027
Fe	REF	REF

MAGNESIUM BASE CURVES

Curve number	F1	F2
Elemental content (%)	Pure Mg	Mg/Al/Mn/Zn Alloy
Al	0.005-1.06	1.09-11.02
Zn	0.00044-0.0132	0.0068-4.1
Mn	0.017-0.148	0.02-0.61
Si	0.012-0.062	0.019-1.83
Fe	0.0069-0.027	0.0012-0.033
Cu	0.00097-0.025	0.00072-0.291
Ni	0.00026-0.0052	0.00042-0.02
Be	-	0.00011-0.0029
Ti	0.0001-0.0025	-
Pb	0.0011-0.037	-
Mg	REF	REF