

OPTICAL EMISSION SPECTROMETER



1. DESCRIPTION:-

Optical Emission Spectrometer "EMISSION-2" is based on latest advances in spectroscopy and designed for direct precision and express elemental analysis of any metals and alloys in factory or research laboratories.

2. CONSTRUCTION:-

OES "EMISSION-2" is carried out in the form of table working place and consists of Spectrom eter complete with multi CCD optics facility, spark stand, spark source, spectrometer control, readout system, spark analyzing software and any additional software or hardware to improve the efficacy of the instrument. Compatible PC, peripherals & data control systems.

3. PRINCIPLE OF ACTION:-

Spectrometer "EMISSION-2" is the analytical device for elemental analysis of laboratory application which principle of action is based on the atomic- emission spectral analysis with a source of spectra excitation - the generator of the unipolar low-voltage spark in argon

4. MAIN FEATURES:-

- Easy-to-use High reliable instrument for express elemental analysis of all kind alloys of Fe, AL, Cu, Co & Sn bases and etc. with 0,00002% accuracy
- High level metrology performance

Element	Analytical line, nm	Detection limits, %	Error,%
Al	394.401	0.00002	<14
C	193.091	0.0001	<17
Cr	286.765	0.00009	<5
Cu	219.958	0.00009	<12
Mn	404.136	0.00003	<5
Mo	386.410	0.00008	<3
Nb	319.498	0.0001	<10
Ni	339.104	0.0008	<6
P	178.283	0.0002	<14
S	180.731	0.0002	<40
Si	288.158	0.00002	<2
Ti	368.521	0.00004	<10
V	326.770	0.00005	<3
W	202.999	0.0009	<5

- The High grade thermo stability without heating elements
- Fully automated, PC controlled express analyzer with one sample testing time duration no more 30 seconds
- Spectral range is 170-915 nm continuously without any zero zone
- Registration of the all separate pictures without time pauses

5. SPECIFICATION:-

Concentration Range of Detection		<0,0001% till tens of %
Error		< 0,5...40 %
Spark source System of spectrum spark in excitation	Spark Type	the unipolar low-voltage argon
	Voltage	400; 500 V
	Frequency	200; 300 Hz
Spectral Range		170 - 915 nm
Spectral Resolution	170...410 nm	≤ 0.01 nm
	410...915 nm	≤ 0.03 nm
Photo detectors		30 multi CCD
Measurement time		0.1 - 250 sec.
Switch on time		≤ 20 min.
Power supply		(220±22-33) V, (50±2) Hz
Power Consumption	Without Spark	≤ 500 Wt
	With Spark	≤800 Wt
Dimensions		≤1200 ? 710 ? 750 mm
Mass		≤200 kg

6. SHIPMENT SPECIFICATION:-

- Spark generator • Spectrometer control system • Readout system • Spark stand with argon flow system
- PC with monitor • Samples adaptors • Sample preparation equipment • Standard samples • Documentation (Passport, Manual and Metrology Certificate)

7. TRAINING:-

The required training for operation of the device should be provided to one group of executives/operators/technicians for at least 06 working days.

8. WARRANTY:-

Electrical, mechanical, electronics mandatory spares for three year normal operation of the machine should be supplied.



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