SPECTROSORT

Flexible Handheld Spectrometer without Radioactive Source

The SPECTROSORT™ is a complete, battery powered, optical emission spectrometer for analysis of metal at any location – at the scrap yard as well as in the shop, in a plant, or up scaffolding. It is distinguished by its low weight - less than 2½ lbs (approx. 1 kilogram) - a thick wall, impact resistant plastic housing, short analysis times and low operating costs. The SPECTROSORT is the ideal tool to increase the value of your identified and sorted metal scrap, to reliably control the composition of metals in the metal processing industry and to guarantee the error free delivery of semi-finished and finished products. In particular, it is the irreplaceable worker for positive metal identification in chemical and petrochemical plants.

The SPECTROSORT does not need an inert gas or a radioactive source, so that it is easy to use and easy to maintain. It comes in a complete package including calibration, reference samples, carrying case and battery pack, as well as belt and holster for comfortable and uncomplicated handling on-site.

The purchase price and operation costs of the SPECTROSORT are the lowest in the industry. The justification is there, even for the smallest of companies that need objective results, instead of subjective estimates, about the composition of a wide range of metals and alloys.

SPECTRO

The SPECTROSORT Software: Program selection, grade identification and approximate analysis.

The SPECTROSORT combines modern technologies with the experience of SPECTRO, the worlds leading manufacturer of metal analyzers for the identification, analysis and sorting of metals.

The revolutionary, newly designed, semiconductor source creates an exceptionally efficient arc discharge between the electrode and the sample. This source operates with an ultra-low power consumption of about 50 Watts, allowing for hundreds of analyses with a single battery charge. The semiconductor electronic source neither decays nor requires recharging or replacement as do X-ray sources. This translates to more time analyzing samples, less cost and less hassle.

The unique 8 tip electrode and a small cleaning brush are the only consumable items that the SPECTROSORT requires. It therefore has the lowest operating costs of any metal analyzer on the market today.

The optical system is that of a miniaturized laboratory spectrometer and makes use of the advantages of the measuring method in full. It delivers precise and reliable measuring results for every relevant element in just about every alloy by means of a high-resolution multi-detector CCD array. The converted signals are transmitted to the integrated computer system for further processing.

The highly visible backlit LCD display allows for the analyses and alloy results to be interpreted clearly and concisely. Data input and control of the instrument can easily be performed with the dust proof membrane keyboard.

The SPECTROSORT is extremely versatile in operation and field applications: for incoming inspection, quality control of metals in the production area, the positive metal identification of structures in chemical and petrochemical plants, the subsequent investigation of parts and welding seams in case of failure, the fast determination of metal grades in scrap transactions and bidding, sorting of mixed scrap, isolation of valuable alloys and many more applications in the metal producing, metal processing and metal recycling industry.

The SPECTROSORT analyzes all common metal alloys precisely and reliably. It can be easily expanded to measure additional or new metal grades.

The SPECTROSORT software automatically controls the optical system and other spectrometer functions. Up to 1000 measurements can be stored for later printout or transmission to an external computer. Besides the analysis function that displays the measured element concentrations, there are two further operation modes the SPECTROSORT can perform. The grade identification mode is used to compare the analysis with an internal database of metal grades and display the grade found. In the sorting mode, the SPECTROSORT checks whether the actual analysis corresponds, within predefined tolerances, with a previous reference measurement.

Technical Data

Sample Probe

- Robust light-weight design
- Easily exchangeable 8-tip disk electrode
- Analysis time: 4 seconds
- Dust proof membrane keypad
- Backlit LCD display

Optical System

- 150 mm focal length
- Wavelength range 278 to 560 nm
- High resolution multi-detector CCD array
- Holographic grating

Source

- Highly efficient, 1 Amp, arc source

Software

- Fully automated optical alignment (profiling)
- Data storage for up to 1000 analysis for later retrieval
- Data export to printer or external computer

Analysis Mode

- Data output in concentrations or intensities
- Automatic calculation of average, SD and RSD

Grade Identification Mode

- Grade identification based on stored library
- User definable grade names and specifications

Sorting, Pass/Fail mode

- Pass/Fail operation based on comparison to known material

Spectrometer Data

- 90-230 V ± 10%, 50/60 Hz or battery pack
- Power: 50 W max., 3 W in standby mode
- Length: 310 mm (12”)
  Height: 270 mm (11”) (including handle)
  Width: 90 mm (3.5”)
- Weight: ~1 kg (~2.2 lbs)

Accessories

- Carrying case
- Consumables
- Belt with holster and battery pack
- Power pack (for direct operation and/or charging of batteries)

Options

- Additional battery pack
- Serial printer

Alloys Ferrous Base
Low alloy Steels: 10XX, 10LXX, 40XX, 41XX, 43XX, 52100, 86XX, 9310
Cr-Steels: 409, 410/416, 430/440
CrNi-Steels: 201, 15-5, 17-4, 17-7, 304, 304Cu, 309, 310, 316, 321, 330, 347, 2205, Carp20
HSS-Steels: H13, S-1, S-5

Alloys Aluminum Base
1XXX, 2XXX, 3XXX, 4XXX, 5XXX, 6XXX, 7XXX

Alloys Copper Base
Cu, Pb Brass, Al Bronze, Si Bronze, CuNi10, CuNi20, CuNi30, Monel, Ni Silver, 85-5-5-5, 80-10-10, Naval Brass, (CuBe), (CuBi)

Alloys Nickel Base
Monel Alloy K-500, C263, Nickel 200, Monel Alloy 400, CuNi, Waspalloy, Rene 41, Udimet 700, In-100, Inconel Alloy 600, Inconel Alloy 601, Inconel Alloy 625, Inconel Alloy X-750, Hastelloy Alloy X, In-713, In-718, Hastelloy Alloy C276, Hastelloy Alloy C4, Incoloy Alloy 800, Incoloy Alloy 825, Incoloy Alloy 901, Carpenter 20

Alloys Cobalt Base
Co, Alloy 6B, Alloy L605, X-40, Alloy 188

Alloys Titanium Base
Ti-Pd, 6-4, 6-3-4-2, 6-6-2, 4-4-4, 6-2-4-6, 8-1-1, 15-3-3-3

Further information

GERMANY
SPECTRO A. I. GmbH & Co. KG
Boschstraße 10, D-47533 Kleve
Tel.: +49 28 21 8 92-21 10
Fax: +49 28 21 8 92-22 10
www.spectro.com
info@spectro.com

U.S.A.
SPECTRO A. I. Inc.
160 Authority Drive
Fitchburg, MA 01420
Tel.: +1 800 548 5809
+1 978 342 3400
Fax: +1 978 343 4714
info@spectro-usa.com

HONG KONG
SPECTRO A. I. (Asia-Pacific) Ltd.
2303-4 Sino Favour Centre
1 On Yip Street, Chaiwan
Tel: +8 52 29 76 91 62
Fax: +8 52 29 76 91 32
sales@spectro-asiapac.com.hk