



SPECTROTEST

Metal analysis redefined

The New Standard for Performance and Flexibility





In 1979, SPECTRO set the standard for on-site metal analysis with the first SPECTROTEST™. “Spectrotesting”, which has become established worldwide as the term for the sorting of metal, proves the overwhelming success of this system. With the new SPECTROTEST, SPECTRO not only continues this tradition, but also sets a new benchmark in terms of analytical performance, user friendliness, and flexibility.

The second generation SPECTROTEST was redesigned from the bottom up. All of the existing components were replaced by innovative technology. They set a new standard for analysis performance for industrial spectrometers and permit the production of a lightweight, maneuverable instrument, that supports the operator in all conceivable metal testing jobs.

The new SPECTROTEST allows battery powered identification, sorting and analysis of metals at practically any location.



1

Sample Probe

For the measurement, there are two sample probes. The standard probe is used for sorting and identification with arc discharge and for analysis with spark discharge – including the element carbon. Phosphor, sulfur, boron and tin can be determined with the UV optic integrated in a special probe. Thanks to the plug connection, the probes can be changed quickly and easily.



2

Adapters & Electrodes

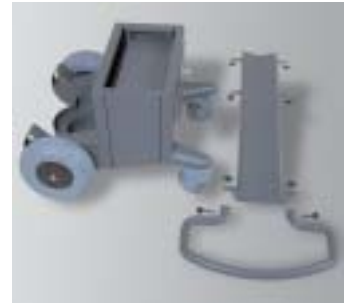
Adapters and Electrodes can be exchanged quickly and simply without the need of a tool. The changing from arc to spark operation and vice versa can be performed within a few seconds.



3

Connections

The SPECTROTEST provides connections to peripheral devices and other computers by means of USB, network, printer, and monitor connections.



4

Transport trolley

The transport trolley was designed as a single unit with the instrument and provides a secure base, as well as easy maneuverability of the instrument. The ergonomic design permits an upright operating position and thus an ideal working height for the user. If necessary, the trolley can be quickly disassembled into three parts for compact transportation.

Ready for all requirements: The SPECTROTEST solves every metal testing task quickly and precisely.



The SPECTROTEST is a product based on imaginative development work, many years of experience, and intensive exchanges of ideas with thousands of users all over the world. No other company has produced anywhere near as many mobile spectrometers as SPECTRO. The heart of the SPECTROTEST consists of a special optic and the ICAL logic system. The combined development of these two novel components signifies a real milestone in spectrometer technology. Together with other high-quality elements, such as the especially effective arc/spark excitation, they form the most powerful spectrometer of its class.

Hidden inside the instrument housing is the newest technology, which cannot be found in any other spectrometer available on the market.



5

Optic

The SPECTROTEST optical system delivers performance that was previously only available in laboratory spectrometers. It maps the entire relevant wavelength range and distinguishes itself through exceptional precision, stability, and robustness. This is achieved by a compact construction developed especially for mobile use. In this construction, the optical components, such as the holographic grating and CCD detectors, are completely integrated and protected from dust and shock.



6

ICAL

The ICAL™ logic system (Intelligent Calibration Logic) monitors and controls the proper state of the spectrometer independent of external influences. This eliminates the time-consuming recalibration of the spectrometer for changes in location and temperature. The measurement of a single control sample is all that is required.



7

APF Plus

APF Plus stands for a function that enables the SPECTROTEST itself to determine not only the base material, but also the necessary analytical program for exact measurement of a sample. This leads to considerable time savings for the analysis of unknown materials.



8

Windows Software

The Windows software SparkAnalyzer ME (Mobile Edition) offers numerous support functions and despite many options, it remains a simple-to-use interface to the spectrometer. An extensive control system with diagnostic functions based on hardware and software ensures that the instrument is always operating trouble-free.

State-of-the-art technology doesn't make the SPECTROTEST more complicated, but instead more powerful, simpler, and reliable.



The requirements from a mobile spectrometer are different at a construction site than in a steel mill or in a warehouse, which is nothing new. What is new is that only one single instrument is needed for these different tasks. Cordless battery operation on the 7th floor of a chemical plant, the analysis of small parts, thin wires, curved surfaces or hidden welding seams, the use at an arc furnace platform in a steel mill, the identification and analysis of a wide range of metal types and alloys at the scrap yard: SPECTROTEST can do it all.

For many routine and non-routine tasks, helpful and beneficial options and accessories are available.



9

Battery pack

An efficient source, in connection with other power saving attributes, ensures that the SPECTROTEST can be operated with an optional battery pack. It provides for several hundred analyses and is easily inserted into the receptacle provided for in the transport trolley or alternatively worn on a belt. This enables cordless operation at nearly any testing site.



10

Special adapters

There are additional adapters available for samples with a wide range of geometries. These adapters simplify or allow for the first time the analysis of pipes, wires, and small parts, as well as other unusual shapes.



11

Mobile Work Station

For continuous use in extremely severe environments, the SPECTROTEST work station MWS (Mobile Work Station) can be used. Here, there is a stable and robust mobile housing, which accommodates the SPECTROTEST, printer, argon bottle, and a drawer for accessories. The practical design reliably protects the components from dust and other especially unfavorable environmental influences.



12

Expandability

Changes or updates to the analytical program can be performed more simply with the SPECTROTEST than with any other spectrometer. Thanks to the ICAL logic system, the special CCD technology can be used optimally and thus enables the simple retrofitting of the system for new testing requirements at a later time.

Programmed flexibility: The SPECTROTEST adapts to new testing requirements without a problem.

Technical Data

Optics

- High-resolution CCD multi-detectors
- 400 mm diameter Rowland circle
- Usable wavelength range: 185 - 520 nm plus detectors for Na, Li and K
- Automatic profiling

Arc Excitation*

- Direct-current arc, maximum current 2.8 A
- 12 kV Ignition of the direct-current arc through controlled individual discharges
- Arc voltage 35V

Spark Excitation*

- Argon lines and valve control
- Current-regulated spark discharge under argon
- HEPS technology (high energy pre-spark)
- up to 600 Hz spark frequency

Sample Probe*

- (Arc/spark excitation)
- Plugable sample probe
- Adapters and electrodes can be exchanged without tools
- Start and reset button on pistol handle
- Pass/Fail indicator (green/red) on the pistol
- 4 meter (12') probe length (Option: 8 meter (24'))

UV Sample Probe*

- (Spark excitation)
- Argon-flushed UV system for determination of (C), P, S, Sn, As, B and additional elements
- Usable wavelength range 174-196 nm

Spectrometer Control / Data Processing

- Mobile CPU
- 256 MByte RAM
- Windows 2000™
- Parallel port
- Network port
- Hard disk drive 2.5", >20 GByte
- VGA port
- 2 USB ports
- Integrated, high-resolution TFT Display 12.1"
- Dust-protected, sealed foil keyboard with function keys
- Trackball IP65
- External USB-CD/RW drive

Software

- Printing and storing of measurement values and protocols for later processing
 - Adjustable font size for monitor and printer
 - Regression program
 - ICAL (Intelligent Calibration Logic)
- ### Chemical analysis
- Alloy Identification
 - Alloy verification

- APF (Automatic Program Finder)
 - APF Plus*
 - Type recalibration
- ### Pass/Fail Sorting
- Pass/Fail display
 - Optionally with alloy identification and display of analysis

Transport Trolley*

- Instrument fasteners
- Holder for argon bottle
- Locking brakes
- Drawer for accessories
- Storage of optional battery pack

Starter Kit

- Electrodes, brushes
- ICAL sample
- Quartz window
- Filter mats

Dimensions and Weight

- Height: 610 mm (24")
- Width: 420 mm (16.5")
- Depth: 245 mm (9.5")
- Weight: 24 kg (53 lbs)

Electrical Connection

- 90-230 V, 50 / 60 Hz
- 300 W during analysis
- 100 W in stand-by mode
- Fuse: 16 A passive
- Battery operation*

Accessories:

- Mobile Work Station (MWS)
- Printer
- Battery pack

*Option

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