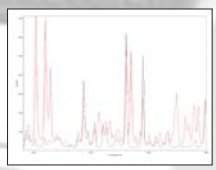
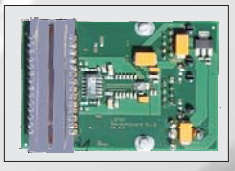
OBLF SPECTROMETRY

OBLF

VeOS

Spark Emission Spectrometer for Versatile Applications





Featuring cutting-edge detector technology on the basis of semiconductor detectors that were specially developed for emission spectroscopy, OBLF's ***VeOS*** spark emission spectrometer enables versatile, flexible and quick analysis of all common metallic materials. The analytical spectrum also includes the precise analysis of short-wave elements like sulphur, phosphorous, nitrogen, carbon (incl. ULC) in steel or cast iron and phosphorous in aluminium.

OBLF's ***VeOS*** is the first spark spectrometer to feature a semiconductor-based detector system whose analytical performance - including the spectral resolution required for a laboratory spectrometer - is every bit as good as established photomultiplier-based systems. This brand new photo-detector technology was specifically developed for spark emission spectroscopy and guarantees excellent results over the entire required wavelength range of 130 to 780 nm. The design of the light-sensitive detectors, which are characterised by a surface that is 100 times more light sensitive than detectors found in conventional systems, was specially adapted to suit the requirements of emission spectroscopy. As a result, this is the first device to offer the best possible combination of spectral sensitivity and spectral resolution along with an innovative design that both guarantees OBLF's well-known quality and the greatest flexibility of use.

In addition to this, the ***VeOS*** model comes in a new, operator-friendly housing. Being both simple to operate and of compact, solid design, the spectrometer is highly suitable for use in production environments, e.g. foundries, but also for goods receipt and materials control purposes as well as in test labs with diverse analytical tasks. Subsequent extensions of the analytical capabilities are easily possible without having to make major system changes.

In order to guarantee that external conditions at the place of installation can not influence the system, the detectors and the specially developed readout system have been housed in the temperature-stabilised vacuum optical system. As in all OBLF spectrometers, the ***VeOS*** makes use of maintenance-free, digital GDS III excitation, which, in conjunction with short analysis times, enables optimised spark discharges to be generated for any given application. Thanks to OBLF's patented automatic pulse cleaning system, the optimised spark stand only requires very infrequent maintenance and can be operated at low cost. The new Windows®-based spectrometer software, OBLFWin, permits simple operation of the machine and offers all the usual settings needed for spark spectroscopy, e.g. type calibration, device monitoring using control samples, materials control, automatic program selection, etc.. Furthermore, the integrated SpectrumAnalyser permits simple extension of emission lines or matrices. For every standard analysis, the line profile or the complete emission spectrum of the analysed sample can be optionally displayed to obtain qualitative information.

Benefits

- Complete and flexible inclusion of all analytical tasks
- Easily extendable applications
- The latest, specially developed detector technology
- Excellent performance with regard to detection limit, precision, stability
- Robust design for use in heavy-duty environments
- Most comprehensive multi-matrix application options without any restrictions regarding the selection of elements for analysis
- Accurate detection of nitrogen and traces of carbon (ULC)

Technical Specifications

Optical System
- Paschen-Runge line up
- Temperature stabilised to +5°C
- Resolution 7 pm/Pixel (50 pm/Pixel alkaline optic)
- Wavelength range 130 - 680/780 nm
- Three types of solid state detectors
- Optimised pixel area for the OES
- Highest sensitivity for short wavelengths due to backside-illumination

Vacuum System
- Automatic vacuum control
- Pump duty cycle < 5%
- Oil-free optical system

Spark Stand
- Optimised for low Ar consumption
- Patented self-cleaning function
- Digital Ar flow control

Spark Generator
- Maintenance free Gated Digital Source
- Digital, fully semiconductor-based control
- Spark frequency up to 1000 Hz

Dimensions & Weight
- Dimensions 74 x 134 x 115 cm (wxhxd)
- Weight approx. 300 kg

VeOS

Contact: OBLF GmbH; Salinger Feld 44; 58454 Witten;
Tel. +49 2302 9879-0; Fax: +49 2302 9879-80; Email: info@oblf.de; Internet: www.oblf.eu

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