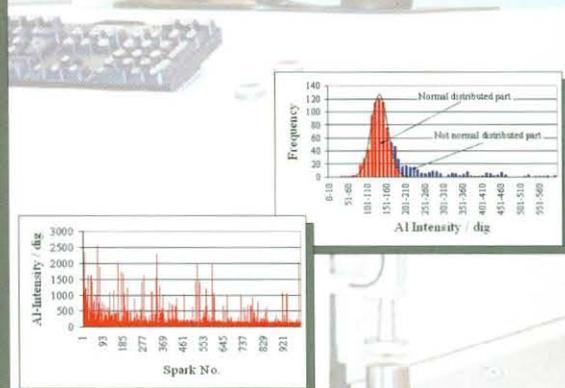**OBLF**

QSG 750-II

**Optical Emission Spectrometer
for Ultimate Performance
Metal Analysis**

Technical Specifications

1. Optical System
   - Paschen-Runge line-up
   - temperature stabilised

2. Vacuum system
   - automatic vacuum control
   - pump duty cycle < 5%

3. Spark stand
   - optimized for low Ar consumption
   - patented self cleaning
   - spark frequency up to 1 kHz

4. Spark generator
   - Gated Digital Source (GDS)
   - completley maintenance free
   - fully semiconductor-based & digital control

5. GISS-Functions
   - time-resolved spectroscopy
   - online processing of single spark intensities
   - elimination of line interferiences
   - spectral background reduction and optimized limits of detections
   - selectable integration windows for each installed channel
   - determination of soluble/insoluble components
   - free definable algorithms for the determination of inclusions

6. Software Functions
   - Windows[R] Software
   - automatic precision control & averaging
   - automatic reprofiling
   - type calibration
   - charge control
   - data module for statistic process control
   - ...

7. Applications
   - all matrices

8. Installation
   - dimensions approx. 119 x 130 x 90 cm (wxhxd)
   - weight approx. 550 kg
   - permissible operating temp. +10 to +40°C
   - argon supply: 3 bar, Ar 4.8 or better
   - power connection 230V, 50/60Hz, 1.5 kVA

Our QSG 750-II spark emission spectrometer can also be called OBLF's flagship model. This single- or multi-matrix model is ideal for all applications demanding the lowest possible detection limits, the highest degree of reproducibility and additional metallurgical information about the analyte. The application spectrum goes from primary producers like steel mills or other smelteries through metal-processing companies right up to research institutes and universities.

At first glance, the QSG 750-II is comparable with the QSN 750-II model. Given identical dimensions, it is also fitted with tried-and-tested hardware components like the temperature-stabilised 750 mm vacuum optics, the Gated Digital Source (GDS) technology with freely definable parameters and the patented, self-cleaning spark stand. An exhaust filter ensures consumed argon is purged. The easy accessibility of all key device parts simplifies service tasks that need to be performed by the user.

The main difference to the other OBLF spectrometers lies in the data logging system, which is based on the GISS technology (Gated Integration of Single Sparks) developed by OBLF. In combination with logging and online processing of the single spark intensities of all measuring channels, time-resolved spectroscopy gives rise to many additional applications. Single spark spectrometry (or PDA pulse distributed analysis), for instance, provides critical information about the

microscopic composition of the sample. In this respect, key words are the detection of inhomogeneous samples, differentiation between dissolved and undissolved components (e.g. aluminium in steel) as well as the detection and determination of inclusions. To ensure best possible use can be made of these options, the OBLFwin software not only includes all standard functions (materials control, automatic program selection, etc.), but also provides additional features that permit simple definition of parameters when a bad sample is detected or when analysing inclusions. All the single spark data can be made available for export to other computer systems. Time-resolved spectroscopy can reduce spectral interference and substantially improve the detection limits of many elements in comparison to standard spectrometers. This opens up completely new avenues when analysing pure metals.

All of the QSG 750-II model's many functions are available for manual and automated operation, as many applications have shown in the steel industry in particular. In such cases, sample handling is performed by a robot and the counter-electrode is cleaned by a special unit fitted to the spark stand. The measured values are automatically transferred to superordinate systems using a network connection. Integrated software modules control and monitor the functionality of the spectrometer. These functions also include analysing control and recalibration samples.