

High performance, accuracy, reliability, flexibility and upgradeability

The system of choice for metal manufacturers, processors and the foundry industry

## FOUNDRY-MASTER Pro

The first class laboratory optical emission spectrometer for complete professional metal analysis

### All in a single instrument

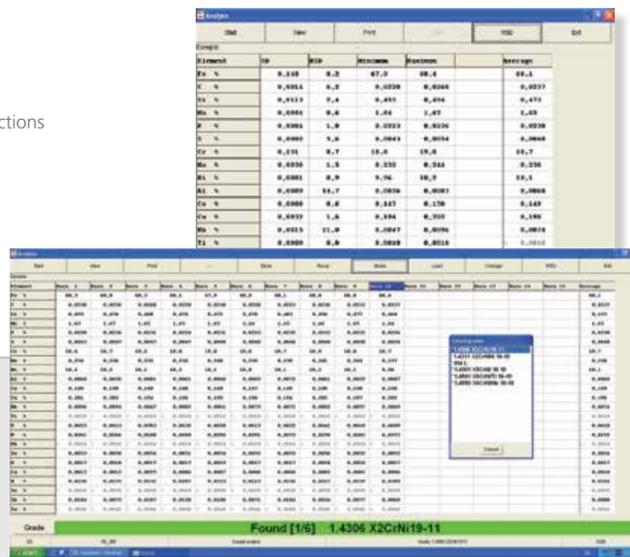


### Advanced FOUNDRY-MASTER Pro software

Thanks to a unique WASLab and familiar Windows®-based software, any operator can routinely produce stable, reliable measurement results with the FOUNDRY-MASTER Pro.

The software is specifically designed to run on CCD spectrometers, and provides all of the functions required for calibration, recalibration, analysis, and reporting.

- Extensive calibration program
- Matrix dilution calculation
- Additive and multiplicative inter-element corrections
- Automatic spectral line switching
- Type recalibration
- Global or partial recalibration
- 1- or 2-point recalibration



### Results, reports and result processing options

Everything is at your fingertips:

- Results of concentrations, grade identifications, grade verifications, intensities, intensity ratios, standardised and corrected intensity ratios, reproducibility check during calibration and analysis
- Average, standard deviation and relative standard deviation on any number of burns
- Flagging of results beyond calibration range or out of material specs
- Automatic and/or user controlled printout and storage
- Display and/or printout and storage of complete sample spectrum
- Automatic transmission of results to remote devices
- Direct output of results to productivity tools such as word processors and spreadsheets
- Input and subsequent calculation of user defined formulae

### We put the spark in spectroscopy

Proprietary detector and readout technology developed specifically for spectroscopy applications makes FOUNDRY-MASTER Pro the system of choice for incoming and outgoing inspection in different metal processing companies.

### State-of-the-art technology guarantees reliable operation and measurement results

The FOUNDRY-MASTER Pro uses the latest optical technology without compromise in element selection, concentration range, or the base metal to be checked. This is due to the use of CCD detectors.

The readout system of the high-resolution Multi-CCD optics with 30,000 channels uses highly advanced electronics and software algorithms for perfect signal processing. Tests can be performed on all standard material grades and chemical elements.

The wavelength range, which starts from as low as 130 nm, enables the measurement of nitrogen in steel. Using deep UV carbon lines improves C performance significantly. Other elements such as B, Pb, Sn or Sb also have well-defined, interesting lines in deep UV.

### Typical Applications

- Analytical mode / identification
- Steel, cast iron and high alloyed steels
- Non-ferrous metals and their alloys
- Al: wrought alloys, casting alloys, etc.
- Cu: bronze, brass, cupronickel, etc.
- Mg, Zn alloys, solders
- Nitrogen in steel
- Phosphorus in aluminium
- Ultra low carbon analysis
- Improved LODs for Pb, Si, Sn, etc.
- Elements such as Se, La, Te, etc.

### OiService worldwide service and support

Oxford Instruments Customer Service recognises there are many decisions to make when choosing the right product and company with which to partner. It is not just about superb instrument functionality or the rugged design of the analyser. The OiService teams are aware of the necessity to demonstrate our depth of knowledge, skills, experience and expertise with regard to supporting our customers.

Oxford Instruments offers a range of support packages that provide you with the level of service you require:

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- Tailored service support contracts
- World class training academy
- Technical help desk support
- Genuine approved Oxford Instruments spare parts
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# FOUNDRY-MASTER Pro

Easy and simple analysis work

Engineered for high performance and reliability, the **FOUNDRY-MASTER Pro**, with its innovative optical system and extended wavelength range, assures precise identification and trace analysis of important elements such as N in steel and P in aluminium.

## Product highlights:

- Uncompromised analytical performance and reliability for production process control
  - Accurate and repeatable analysis including grade determination
  - Superior Low Carbon and Nitrogen measurement performance
  - Excellent long-term stability and minimum detection limits
  - Wide 130 nm – 780 nm wavelength range covers all elements
  - High-resolution Multi-CCD optics for optimal spectral line separation
  - Unique, proven Jet-Stream Technology ensures analysis accuracy on samples of nearly all sizes and shapes
  - Editable Grade Identification library
- Solid and robust technology allows continuous use in any location, even in rugged conditions
- Easy to use
  - Easy-access advanced sample stand
  - Intuitive yet flexible Windows®-based user interface
  - External PC workstation
- Vacuum optics means low argon consumption and minimal costs
- Minimal and cost effective maintenance



FOUNDRY-MASTER Pro

## Ease of use and simplicity

The intuitive user interface and numerous customer-driven features make analysis work easy and simple. Just place the sample on the sample stand, start the measurement and read the result.

The **FOUNDRY-MASTER Pro** generates quantitative analyses of materials. The analysis results are displayed on screen and can be stored in an internal database for material validation purposes. The analysis data can also be exported to an external PC with productivity tools, such as SPC software packages, which enables certificates to be easily created and printed.

The **FOUNDRY-MASTER Pro** comes with factory calibration based on available certified reference materials. In addition, the instrument's software allows the calibration and element ranges to be expanded by using customer samples without difficulties. In this regard, even very specific calibration needs can be met.

## Unique sample stand

A unique sample stand, proven Jet-Stream Technology and a superior plasma generator ensure straightforward and precise analysis of samples even with complex shapes and sizes – from large semi-finished products to small parts. Even wires as thin as 1 mm can be accurately measured using universal adapters.



Sample adaptors



Vacuum lens assembly

Results can be displayed on screen, printed out or sent remotely to other devices



- Spark stand deposits are minimised through optimised argon flows
- The sample stand is easy to maintain – only one window (indirect light path) and one lens (direct light path) to clean, with no need to touch the vacuum system

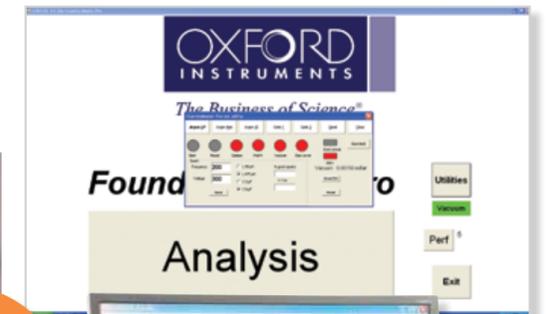
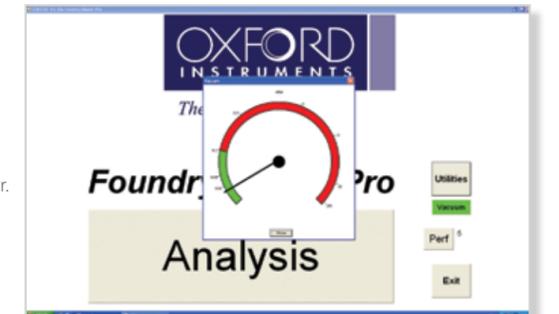
FOUNDRY-MASTER Pro

## Intuitive, informative user interface

The **FOUNDRY-MASTER Pro**'s Windows®-based software makes it convenient and easy for the operator to perform both routine measurements and more demanding customer-specific test configurations. In addition, the user can monitor all important automatic control functions performed by the analyser.

- Service and maintenance tools are fully integrated
  - Optical test routines
  - Hardware test routines
  - Remote access enabled
- Spectrum evaluation tool included
- Wavelength calibration provides ability to identify unknown peaks

Keep organised



All service and maintenance tools are fully integrated

## Robust yet sophisticated vacuum system

- Efficient – allows measurements down to 130 nm
- Economical – no argon gas purge for optics needed
- Enhanced vacuum level check by gauge – results monitored by the software
- Edwards two-stage vacuum pump with oil and oil mist filter



FOUNDRY-MASTER Pro