Thermo Scientific
Optical Emission Spectrometers
Product Range

For chemical analysis of solid metallic samples

Quality • Accuracy • Precision • Stability
Reliability • Economy • Speed

Thermo Scientific
For more than 75 years, our company has set the standard for elemental analysis of solid metal samples with regular firsts with a continuous stream of innovative optical emission spectrometers. Our instruments allow fast simultaneous analyses of all elements necessary to perform the wide range of analytical tasks of the metals industry, from scrap sorting, incoming material inspection, production control, to R&D or final product quality control. Applications of our instruments include turnkey solutions for the complete elemental analysis from trace up to major elements in iron and steel, aluminum, copper, nickel, zinc, lead and other metals. The unrivaled reputation of the Thermo Scientific optical emission spectrometers is based on our extremely large installed base of OES spectrometers and their key attributes: accuracy, performance, stability, robustness, reliability, ease of use, availability and low cost of ownership.

**ARL 3460 and ARL 3460 Advantage**

*High performance metals analyzer*
- The universal reference for full PMT OES spectrometers, with more than 5,000 single and multi-matrix systems installed worldwide
- Analysis of all types of metals and alloys, including pure metals
- Excellent sensitivity, precision, accuracy and stability
- The ARL 3460 Advantage offers custom designed configurations covering the needs of mid-size foundries and metal processors

**ARL 4460**

*Optimal performance metals analyzer*
- The reference high speed and performance full PMT OES spectrometer for metals producers and refiners, with more than 2,000 systems installed worldwide
- Analysis of all types of metals and alloys, including ultra-pure metals
- Optimal sensitivity, precision, accuracy and stability with shortest analysis time
- Determination of ultra-low concentration C, N and O in steels
- Ultra-fast analysis of non-metallic inclusions suitable for control during metal production
- Analysis of small samples

**ARL Fire Assay Analyzer**

*Analysis of fire assay lead buttons*
- For fast (less than a minute) and highly quantitative determination of precious metal traces in fire assay lead buttons
- Considerable time and cost savings thanks to suppression of cupellation and traditional analyses (chemicals, lab equipment)
- Outstanding sensitivity, precision, accuracy, stability and reliability
- Ease of use
- Makes fire assay analysis simpler, cleaner and less polluting
ARL iSpark Series
Innovative OES for reliable quality metals

The ARL iSpark Series combines experience and innovation. Designed around the world's most famous PMT optics of the ARL 3460 and ARL 4460 spectrometers, it includes increased functionality and many innovative features, e.g.:

• Stand design allowing easy and fast routine maintenance
• Significant argon savings during analysis and in stand-by
• Most advanced acquisition and processing technologies ensuring highest performance for all the elements

With a high performance CCD spectrometer module on some models, the ARL iSpark Series addresses the requirements of all market and application segments.

The ARL iSpark Series consists of the following three models:

ARL iSpark 8820
Experience and innovation

• Custom designed dual CCD/PMT OES spectrometer for outstanding determination of a wide range of elements
• Analysis of all types of metals and alloys, including pure metals
• Typically for foundries and metal processors wanting an economical solution for efficient quality control
• Excellent sensitivity, precision, accuracy and stability
• Spectral investigation

ARL iSpark 8860
Experience and performance

• State of the art full PMT OES spectrometer with ultimate performance for trace element determination
• Instrument of choice for metals producers and refiners
• Analysis of all types of metals and alloys, including ultra-pure metals
• Optimal sensitivity, precision, accuracy and stability with shortest analysis time
• Determination of ultra-low concentration C, N and O in steels
• Ultra-fast analysis of non-metallic inclusions suitable for control during metal production
• Analysis of small samples

ARL iSpark 8880
Experience and versatility

• Dual CCD/PMT spectrometer with utmost versatility, ideal for contract laboratories, metal recycling industries or any companies needing wide analytical capability
• Analysis of all types of metals and alloys, including ultra-pure metals
• All options available, including ultra-fast analysis of non-metallic inclusions, determination of ultra-low concentration C, N and O in steels and small sample analysis
• Spectral investigation
Thermo Scientific OES automation systems

Automation improves sample analysis dependability and quality by eliminating many of the causes of measurement errors (i.e., human variables). Shorter and constant response times lead to major production savings. Faster and fully reproducible results allow you to meet tighter product specifications and time pressures without increasing overhead costs.

The series of SMS automation systems span the entire metals industry spectrum from foundries and metals processors to modern steel works and large aluminum smelters.

ARL SMS-2000 system

With an installed base of several hundred units, this compact and easy to install system has established an undisputed reputation for excellence. Today, the ARL SMS-2000 is the ideal solution to link automated spectrometers to large central laboratory automated sample preparation and distribution systems.

ARL SMS-2500 system

At the cutting edge of technology, this system provides the ultimate speed of operation with a tighter integration of sample preparation. The latest industrial robotics technology provides full sample handling flexibility and major sample throughput and response time enhancements to increase your efficiency.

ARL QuantoShelter

For unattended in-situ analyses, these systems can be supplied in a transportable container also called “the lab in a box”. This permits to bring the laboratory to the samples instead of bringing the samples to the laboratory. These systems feature:

- Unattended operation during 24 hours per day
- Shorter and constant response times leading to major production savings
- More samples processed, frequently eliminating production bottlenecks
- Ultimate productivity and efficiency for your quality control operation

ARL SMS-3500 system

Two OES or an OES and an XRF instrument can be automated using this top class standard system based on a large robot arm and fully compatible with the CE safety regulations. The automation of multiple spectrometers and preparation machines with many innovative features offer new opportunities for users requiring more comprehensive and integrated laboratory automation solutions.