

Recommended Spectrometer for North Asia Foundry



Overview

Optical Emission Spectrometry (OES) serves as the primary analytical technology for foundry process control.

Key Takeaways

For North Asia foundries, high-performance Optical Emission Spectrometers (OES) such as SPECTRO, Metavision, and Hitachi OES systems are recommended for both stationary and mobile steel and alloy analysis. Key Considerations for Foundry Spectrometers

When selecting a spectrometer for foundry operations, consider the following:

- **Elemental Coverage:** Ensure the spectrometer can analyze both major and trace elements, including Carbon, Sulfur, Phosphorus, Nitrogen, Oxygen, and rare elements like Niobium or Cerium, depending on steel or alloy requirements .
- **Detection Limits:** For advanced alloys, instruments should detect elements down to single-digit ppm levels for Lead, Bismuth, or Nitrogen .
- **Throughput and Speed:** High sample throughput is critical for furnace-side decision-making and process control, with analysis times typically under 30 seconds .



- **Environmental Stability:** Hermetically sealed, temperature-stabilized optical chambers and software drift correction are essential for consistent results in foundry conditions .

Recommended Spectrometer Options

- **Stationary OES Systems**
 - SPECTROLAB and SPECTROMAXx: Suitable for large-scale steel and non-ferrous foundries, offering high precision and automation capabilities .

- Metavision-10008X: Advanced coverage for 60+ elements, including ultra-fine wire and foil analysis, ideal for large steel plants and research labs .

- Hitachi OE Series: Offers high accuracy for main alloying elements and trace elements like Nitrogen in steel, with robust software and service support .

Mobile and On-Site Analyzers

- SPECTROTEST, SPECTROPORT, SPECTRO xSORT: Mobile analyzers for on-site material sorting, PMI, and charge verification .

- Metavision-MX and MX+: Mobile OES solutions with various probe options for precise on-site analysis of large parts or scrap .

- Hitachi PMI-MASTER Smart/Pro2: Portable OES instruments providing laboratory-level accuracy for scrap selection and final specification verification .

Entry-Level and Small Foundry Solutions

- SPECTROCHECK: Designed for small companies with fewer casting processes .

- MOSS Optical Emission Spectrometer: Compact, scalable, and capable of analyzing up to 25 elements, suitable for smaller steel plants or rolling mills .

Additional Considerations

- ICP-OES Systems: For trace analysis of industrial waste or liquids, instruments like SPECTRO ARCOS or SPECTROBLUE provide ppb/ppm detection limits and high automation potential .

- Sampling Integration: Use compatible samplers such as Heraeus Electro-Nite SaF or SaF-DO to ensure homogeneous and accurate sample acquisition for spectrometer analysis .

- Software and Automation: Modern spectrometers include dynamic software profiling, real-time drift correction, and integration with foundry process control systems for efficient operation . By selecting a spectrometer that balances elemental coverage, detection limits, throughput, and environmental stability, North Asia foundries can achieve precise, reliable, and efficient metal analysis for both routine and specialized applications.

Article Content

2026 Foundry Guide: Selecting Optical Emission Spectrometers

Optical Emission Spectrometry (OES) serves as the primary analytical technology for foundry process control. By

FOUNDRY-MASTER Smart 2 | Optical Emission Spectrometer

Engineered for value, ease of use, and backed by application-driven support. The FOUNDRY-MASTER Smart 2 delivers

VAS Spectrometers | Optical Emission Spectrometers for Metal Analysis

VAS Spectrometers offers high-precision Optical Emission Spectrometers (OES) and spectrometer solutions for ferrous and non

How to Choose an Optical Emission Spectrometer | 2026 Guide

This OES spectrometer buyer guide cuts through that noise with the practical perspective of engineers who have commissioned

Used Foundry Spectrometers For Metal Analysis | We Buy & Sell

We are a dealer specializing in second hand optical emission spectrometers (OES) used for base metal analysis of primary metal

Ultimate quality control. No compromise.

The FOUNDRY-MASTER Pro2 optical emission spectrometer is a metals analyser engineered to deliver superior analysis at every

FOUNDRY-MASTER Smart

Upgrading your stationary optical emission spectrometer (OES) to the Hitachi High-Tech FOUNDRY-MASTER Smart can open up

FOUNDRY-MASTER Smart Optical Emission Spectrometer

The FOUNDRY-MASTER Smart is the ideal solution for the metal production and processing industry, providing cost-effective,

Contact Us

Continue your research online:

Website: <https://thegalleryselfcatering.co.za>

Technical inquiry: <https://thegalleryselfcatering.co.za/contact.html>

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

