

A complete range of OES analyzers for quality control throughout the process



**MASTER EVERY MELT**



# Master every melt

Hitachi High-Tech's range of optical emission spectrometers all have one thing in common: accurate metals analysis whenever you need it.

Reliability is of central importance to quality control in the metals industry. Our analyzers are designed to have fast, accurate analysis over the long-term.

With the FM EXPERT, FOUNDRY-MASTER Smart and OE series, businesses of all sizes will be able to find an analyzer suited to their process control needs. Each one will give you fast results and reliably high performance combined with a robust, durable design. Rigorously-tested to ensure low cost of ownership, our OES range will give you control over your quality, while speeding up your production process by reducing tap-to-tap time.

# Adding value to your operations

Our range of OES spark spectrometers combine ease of use with reliably high performance, making them the perfect quality control solutions for the metal industry. High level analysis is as easy as placing the sample on the spark stand, starting the measurement and reading the results.

- | Analysis of nitrogen at low levels.
- | Analysis of the majority of metals and their alloys.
- | Unrivalled price-performance ratio.
- | High sample throughput.
- | Long-term stability, precision and accuracy.
- | Intuitive and easy to use software packages.
- | Low cost of ownership with optimized power and argon consumption.
- | Comprehensive metals database included, for fast and easy grade identification.
- | Optional statistical process control and charge correction software packages.
- | Connectivity with cloud-based data management for real-time decisions.
- | A unique spark stand, accessible from three sides, makes our spark spectrometer range ideal for samples with complex and irregular shapes and sizes.

## Grade Database included

Our OES analyzers come with the world's largest metal database already installed. With more than 15 million records for over 350,000 materials from 74 countries, you'll have easy access to the information you need with no time-consuming research in norms and grade catalogues.

# The Hitachi High-Tech range of spectrometers for foundries at a glance



## **FOUNDRY-MASTER SMART**

The FOUNDRY-MASTER Smart brings high performance on a limited budget, making it a cost-effective solution for companies that have previously used third parties to analyze their samples. This analyzer is suited to smaller foundries and metal processing companies that don't need low detection limits as part of their process control, QA/QC and material verification. Bigger foundries and steel plants will also find it valuable as a fast, reliable backup analyser.



## **FM EXPERT**

The FM EXPERT provides all of the benefits the FOUNDRY-MASTER Smart has but with one important difference: nitrogen analysis. For companies that need to precisely monitor nitrogen levels as part of their quality control, QA/QC and metal production processes, the FM EXPERT offers the highest performance to price ratio on the market. It's also an ideal backup analyzer for bigger foundries.



## **OE SERIES**

The ground-breaking OE series takes it one step further. With even higher optical resolution and lower detection limits it covers all elements for complete metals analysis, and this also with lower operating costs. The OE series allows you to identify low levels of tramp, trace and treatment elements in metals, performing on a par with larger and more expensive spectrometers. For foundries with high demand melt control the OE720 and OE750 detect unwanted tramp metals in low concentrations, the OE750 analyses gases, such as hydrogen, oxygen and nitrogen. Everything you need in a single affordable instrument.

## Charge Correction

This optional software automatically calculates the right quantity of material to add to a melt to bring it into spec. You no longer have to rely on human expertise and it greatly speeds up the charge correction process. The software also calculates the most cost-effective way to correct the melt by considering your available source material and furnace capacity.

# How to choose the right model

Requirement	Suitable Models			
Target Group	FOUNDRY-MASTER Smart	FM EXPERT	OE720	OE750
Analytical demands relatively low regarding detection limits	✓			
Lower limits of detection			✓	✓
Budget limited	✓			
High analytical performance	✓	✓	✓	✓
Small footprint, easy transportation	✓	✓		
<b>Needed for</b>				
Process control for cast iron and steel cast foundries	✓	✓	✓	✓
Process control for ferrous and non-ferrous foundries	✓	✓	✓	✓
QC/QA for verification of incoming goods	✓	✓	✓	✓
Metals processing companies (gears, fasteners...)	✓	✓	✓	✓
Mechanical engineering companies	✓	✓	✓	✓
<b>Calibration</b>				
Not limited, instrument upgradable	✓	✓	✓	✓
Fe, Al, Cu, Ni, Co, Ti, Zn matrices	✓	✓	✓	✓
Co, Mg, Ti, Zn matrices	✓	✓	✓✓	✓✓
Nitrogen for austenitic stainless and duplex steel		✓	✓✓	✓✓
Nitrogen for low alloy steel and melt control in foundries				✓✓
Pb, Sn matrices		✓	✓✓	✓✓
More source parameters optimized for different applications	✓	✓	✓✓	✓✓
All interesting elements for any metal material			✓	✓✓
Analysis of H and O in Ti, O in Cu				✓
Ultra low carbon analysis (5 ppm LOD)				✓
Improved LOD's for Pb, Si, Sn...			✓✓	✓✓
Improved LOD's for P, Bi, Sb, Ca... in Al			✓✓	✓✓
Trace elements like Se, La, Te...			✓✓	✓✓
<b>Software</b>				
Grade database included	✓	✓	✓	✓
Optional SPC (Statistical Process Control software)	✓	✓	✓	✓
Optional charge correction software	✓	✓	✓	✓



# Other products



## **X-MET8000**

This handheld XRF analyzer offers quick, non-destructive analysis and accurate chemistry and grade identification. By combining a high-performance X-ray tube with a large area silicon drifter detector (SDD), it can handle even the most demanding applications in seconds. For foundries it is ideal for scrap sorting, analysis of circulation material, verification of ferro alloys or other materials for the melt correction.



## **VULCAN**

One of the fastest handheld metals analyzers in the world, the Vulcan allows you to identify a wide range of alloys in one second. It's great for aluminum foundries, due to its capability to analyze light elements like Be, Mg, Al and Si. For foundries it is ideal for scrap sorting, analysis of circulation material and other materials for the melt correction.





# Our Service

To keep you up and running, our global network of service hubs offer a complete range of technical support:



Telephone help desks for a fast response to any problem.



In-depth support over the internet with online diagnostics.



Rental instruments, so you can keep working if your analyzer isn't.



Annual calibration checks and re-certification services to ensure your analyzer produces the right results year on year.



Training to help you get the most from your analyzer and its features.



Extended warranties for peace of mind and avoiding unplanned costs.



A range of consumables and accessories – from spare batteries to bench-top sample preparation.



A fast and efficient repair service.

Find our more at [hhtas.net/support](https://hhtas.net/support)

# About Hitachi

We specialize in high-tech analysis solutions, custom-designed to meet the challenges of a rapidly evolving industrial sector.

We're using our decades of experience in materials testing to help create the industry of tomorrow, harnessing the power of connectivity and data to drive product quality and reduce waste.

Simplifying complex processes and enabling rapid decision making to ensure we're all ready to meet the needs of tomorrow's society.

Through essential materials analysis that adds value throughout the production lifecycle, we're today helping thousands of businesses reduce their risk and become leaner, greener, safer and more profitable.

Improving today. Building for a connected tomorrow.



## What next?

Contact one of our experts today at [contact@hitachi-hightech.com](mailto:contact@hitachi-hightech.com) to arrange a demo.

### MORE INFORMATION

To find out more about our complete range of metals analysers, visit [hhtas.net/master-every-melt](https://hhtas.net/master-every-melt)

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