

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

6 **C**
CARBON
3.45%

14 **Si**
SILICON
3.32%

42 **Mo**
MOLYBDENUM
0.38%

16 **S**
SULPHUR
0.0138%

25 **Mn**
MANGANESE
0.48%

7 **N**
NITROGEN
0.0064%

15 **P**
PHOSPHORUS
0.0391%

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 analysers are designed to have fast, accurate analysis over the long-term.

With the FM EXPERT, FOUNDRY-MASTER Smart, FOUNDRY-MASTER Pro2 and OE750, businesses of all sizes will be able to find an analyser 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 optimised power and argon consumption.
- | Comprehensive metals database included, for fast and easy grade identification.
- | Optional statistical process control and charge correction software packages.

A unique spark stand, accessible from three sides, makes our spark spectrometer range ideal for samples with complex and irregular shapes and sizes.

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.

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 analyse their samples. This analyser 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 analyser for bigger foundries.



FOUNDRY-MASTER PRO2

With low detection limits the FOUNDRY-MASTER Pro2 is an effective solution for medium to large foundries producing large amounts of high-quality materials and needing to accurately determine the exact chemical composition of their products. Its consistently high performance also makes it a premium solution for recycling companies and scrapyards that need to verify trace and tramp elements.



OE750

The ground-breaking OE750 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 OE750 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 OE750 detects unwanted tramp metals in low concentrations. Everything you need in a single affordable instrument.

How to choose the right model

Requirement	Suitable Models			
Target Group	FOUNDRY-MASTER Smart	FM EXPERT	FOUNDRY-MASTER Pro2	OE750
Analytical demands relatively low regarding detection limits	✓			
Lower limits of detection		✓	✓	✓
Budget limited	✓			
New to OES	✓	✓	✓	
High analytical performance	✓	✓	✓	✓
Small footprint, easy transportation	✓	✓	✓	
Needed for				
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	✓	✓	✓	✓
Calibration				
Not limited, instrument upgradable		✓	✓	✓
Fe, Al, Cu, Ni, Co, Ti, Zn matrices		✓	✓	✓
Limited for Fe, Al, Cu, Ni matrices	✓			
Fixed calibration	✓			
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 optimised for different applications	✓	✓	✓	✓
All interesting elements for any metal material			✓	✓✓
Ultra low carbon analysis (5ppm LOD)			✓	✓✓
Improved LOD's for Pb, Si, Sn...			✓	✓✓
Improved LOD's for P, Bi, Sb, Ca... in Al				✓✓
Trace elements like Se, La, Te...			✓	✓✓
GRADE Database included	✓	✓	✓	✓
Optional SPC (Statistical Process Control software)	✓	✓	✓	✓
Optional Charge correction software	✓	✓	✓	✓



Other products



X-MET8000

This handheld XRF analyser 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 analysers in the world, the Vulcan allows you to identify a wide range of alloys in one second. It's great for aluminium foundries, due to its capability to analyse 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 analyser isn't.



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



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



Extended warranties for peace of mind and avoiding unplanned costs.



A range of consumables and accessories – from spare batteries to benchtop sample preparation.



A fast and efficient repair service.

Find out more at hhtas.net/support

Why us?

Based in Oxford in the UK, Hitachi High-Tech has over 40 years' experience as a specialist in analysis solutions. As the industrial sector rapidly evolves, so do the challenges facing the industry. That's why we work in close collaboration with you. Our in-house experts develop bespoke testing methodologies that deliver simplicity of operation – no matter how complex the application. The result is a range of high performance laboratory and in-field testing instruments for materials – robust and reliable devices that utilise the latest technological advances – to help you drive your business forward.



What next?

Contact one of our experts today at **contact@hitachi-hightech-as.com** to arrange a demo.

MORE INFORMATION

To find out more about our complete range of metals analysers, visit **htas.net/master-every-melt**

Hitachi High-Tech Analytical Science

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Science for
a better tomorrow

