OE SERIES

HITACHI
Inspire the Next

Ultimate quality control. No compromise.

PROCESS / QUALITY CONTROL

High performance and efficiency

The OE720 and OE750 are ground-breaking OES metals analyzers. Covering the complete spectrum of elements in metal, they also have low detection limits.

Tightening of industry regulations, complex supply chains and increased use of scrap as a base material means it's crucial for foundries and metals manufacturers to control tramp and trace elements in the lowest ppm range. Historically, OES analysis at this level was out of reach for many businesses. That's now changed with the OE series from Hitachi High-Tech.

These spark spectrometers allow you to analyze all main alloying elements and identify exceptionally low levels of tramp, trace and treatment elements in metals, such as nitrogen in steel. Fast measurement times, high reliability and low operating costs mean the OE720 and OE750 are invaluable for everyday analysis and total quality control, with performance on a par with larger and more expensive spectrometers.

There are over 45 years of metals industry experience behind the design of the German-made OE series. From measuring nitrogen in steel and iron to phosphorus in aluminium, these analyzers give you the comprehensive metals analysis you need to meet today's tough specifications.

For fast, comprehensive metals quality analysis in a single affordable instrument, the OE720 and OE750 deliver everything you need.

Why choose the OE series?

RESULTS YOU CAN TRUST

High optical resolution to control tramp and trace elements.

LOW COST OF OWNERSHIP

Affordable to buy and run, delivering the performance of more expensive analysers.

KEEPING YOU RUNNING

Engineered for reliability with minimum maintenance and standardisation requirements.

SUPPORTS CONTINUOUS PRODUCTION

Cloud-based data management, rapid analysis and short start-up times for fast feedback on melt quality.

How we make high-performance affordable

IT'S ALL DOWN TO THE TECHNOLOGY.

The OE series includes state of the art semiconductor detectors and a new optical concept (patents pending). This gives high optical resolution, so you don't have to choose between high performance and low cost.

Innovative use of dynamic CMOS detectors and direct coupling of the optics to the spark-stand ensures the best luminosity together with a wavelength range of 174 nm to 670* nm for the OE720 and 119 nm to 670* nm for the OE750. This covers all elements, from hydrogen to uranium, for complete metals analysis**. This performance is usually only available with high end quality control instrumentation, yet the OE series keeps costs down through innovation, low argon and power consumption.

The OE series gives you maximum flexibility for element selection, making your operation fit for the future.

MAXIMUM RELIABILITY MINIMUM DOWNTIME

- The OE series is engineered to keep you running. Maintenance time is minimized; for example you only need to clean the spark stand every few thousand measurements** and standardization intervals are typically weeks, or even months. This could potentially buy you up to two hours of extra productivity.
- Plus, a newly developed electrical spark source gives you better reliability and the best energy excitation pulse per element, making your analysis more precise.

*766 nm on request

**Depending on the application, for further details see our application reports: hhtas.net/stationary-oes

Software innovation to support quality control

SPARCFIRE

The modern operating software for the OE series with a state-of-the-art user interface is designed to meet the requirements of metallurgical experts but is intuitive enough to be operated by inexperienced users.

GRADE DATABASE

The largest metals database on the market for fast and easy grade identification is pre-installed on the OE series. The Hitachi GRADE Database offers more than 15 million records for over 350,000 materials from over 74 countries and standards. You can update your instrument's grade database with a few clicks – no time-consuming research in norms and grade catalogues.

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.

STATISTICAL PROCESS CONTROL

The optional SPC allows you to easily monitor your processes and notifies you if your melt process or instrument is out of spec. You can set an upper and lower control limit for each element and see a visual representation of each element within those limits over time. This means you can reduce scrap and rework by spotting trends before they impact the final specification. On top of this, traceability functionality makes it easy to provide information for customer or regulatory audits.

EXTOPE CONNECT

ExTOPE Connect is an advanced data management and storage service that allows you to store your results safely, share data instantly and access data in real time from any computer. It includes unlimited free and secure data storage and you can manage a fleet of instruments across several sites from one centralised location.

The OE series comes with software that makes analysis faster, more accurate and easier to interpret. This offers results analysis that helps with process control, and data management functionality allows full traceability of results and helps when it comes to audit time.

SpArcfire

GRADE Database

SPC

ExTOPE Connect

Technical specifications

OE750

Analyses hydrogen, nitrogen and oxygen

Dimensions, electrics	
Width / height / depth	425 mm / 535 mm / 760 mm
Weight OE720 / OE750	84 kg (185 lbs) / 88 kg (194 lbs)
Floor stand version width / height / depth	425 mm / 535 mm / 1250 mm
Weight floor stand version OE720 / OE750	162 kg (357 lbs) / 166 kg (366 lbs)
Power	100 - 240 V AC, 50 / 60 Hz
Consumption max.	430 W
Operating mode / standby	45 W / (50 W source on)
Optical system	
Rowland circle	Paschen-Runge mounting
High resolution multi-CMOS	Optimized pixel resolution
Wavelength range OE720	174 - 670 nm (extendable to 766 nm on request)
Wavelength range OE750	119 - 670 nm (extendable to 766 nm on request)
Focal length	400 mm
Solid state source	Computer controlled parameters
Frequency	80 - 1000 Hz
Voltage	250 - 500 V
	High Energy Pre Spark (HEPS)
Readout system	
External PC workstation	Microsoft® Windows® user interface
Options	Adapters
	Spare parts kit
	Consumables
	Sample preparation devices
	Floor stand version

Reducing operating costs

The OE series punches well above its weight, giving you the performance of an expensive analyzer in an accessible package. We've reduced running costs too. Here's how:

Reduced argon consumption

The OE series uses 10% less argon than its predecessor, thanks to a reduced volume housing the optics and better gas flow around the spark.

Low energy consumption

These analyzers use less than half the energy of previous models, due to an innovative spark generator and smart power management.

Our Service

Our global network of service hubs offers a full range of technical support to keep you up and running.

- **Telephone help-desks**
  For a fast response to your problem.
- **Consumables and accessories**
  From electrodes to spare part kits.
- **Recertification and maintenance**
  Ensures your analyser produces the right result year after year.
- **Training**
  Understand your analyser and its features.
- **Extended warranties**
  Avoid unplanned costs.
- **Repairs**
  Fast and efficient turnaround.

MORE INFORMATION

To ind out more about our spark spectrometers visit:

https://cientec.com.mx

Phone: +52 33 3817 0140

Other products

We provide a range of products for comprehensive metals analysis, including:

- **Mobile and portable OES:** for high performance analysis of alloyed and trace elements; nitrogen analysis in duplex steels.
- **Handheld XRF:** for fast, reliable, non-destructive identification and analysis of alloys.
- **Handheld LIBS:** latest technology for 1-second alloy identification with no X-rays.

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