Metavision 1008i³

When excellence is not good enough

METAL POWER

Finest mid-range OES, including accurate analyses of all gaesous elements

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Multi-stage internal argon repurification for the DUV optics

Current controlled digital PWM source for plasma generation

Low & single PPM detection limits across 60+ elements

Hermetically sealed cooled dual optics

Single sample re-standardisation in under 5 minutes

Metavision 1008i³

The *Metavision-1008i³* is a powerhouse in elemental analysis, offering unmatched performance for ferrous and non-ferrous applications, including alloys. It's tailored for round-the-clock operations in industries like automotive, foundries, steel manufacturing, and similar sectors. Each element has been designed to deliver exceptional accuracy and precision with low and single-ppm detection limits.

Optics

The *Metavision-1008i³* features ultra-high-resolution dual optics, employs the latest generation CMOS detector system, and uses custom-developed optical components to ensure the very best levels of accuracy and stability. It also offers class-leading optical resolution, directly translating into lower detection limits, higher stability, and better elemental coverage than any OES in its class. The optical system is hermetically sealed and thermally stabilised to a low temperature and features multi-stage internal argon repurification, which minimises thermal noise and optimises transparency, further improving analytical performance.
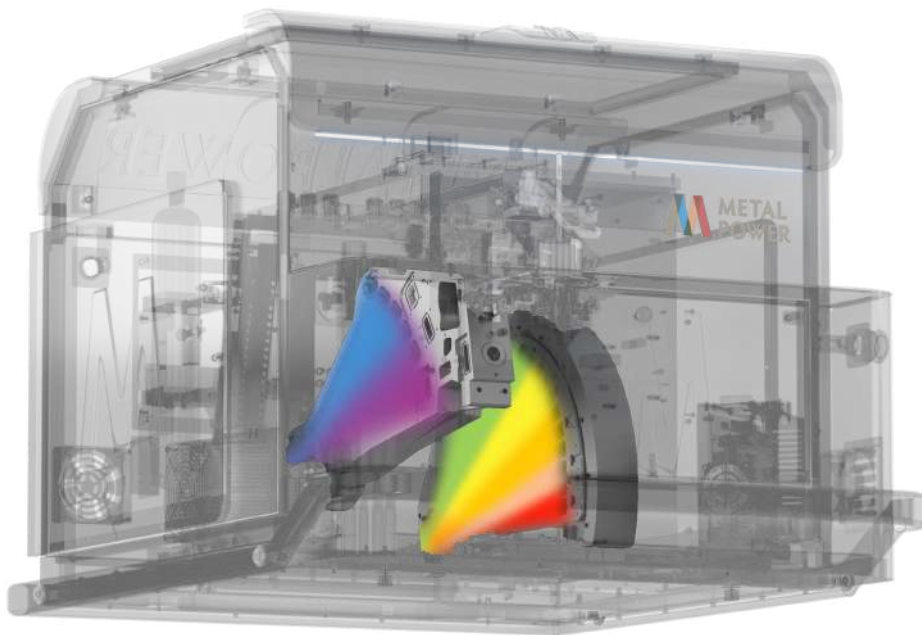
Enhanced Elemental Analysis

With a wavelength range of 118-671 nm (extendable to 800 nm), the *Metavision-1008i³* analyses 60+ elements across multiple bases. Featuring an RLD of 0.8 nm/mm, it is the only instrument in its class to offer Oxygen analysis in Fe, Cu, Ni and Ti bases down to 10 ppm.

It also ensures low-level detection of key trace and alloying elements, including C, S, P, B, Ni, Cr, Li, and Na, as well as 99.995%+ purity analysis.

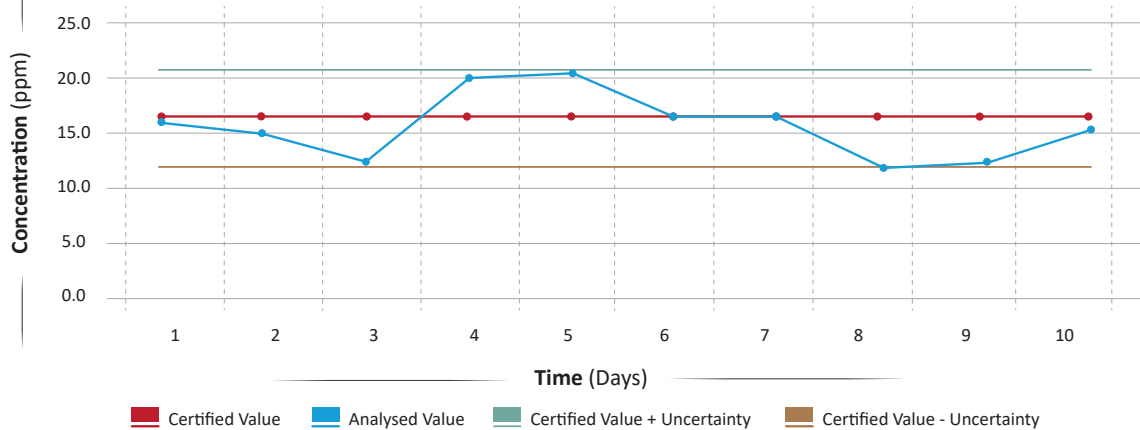### Stability Report for Oxygen in Steel
CRM ID: IARM373A_FE_ARMI
Certified Value: 20 ppm; Uncertainty: 5 ppm

Certified Value   Analysed Value   Certified Value + Uncertainty   Certified Value - Uncertainty
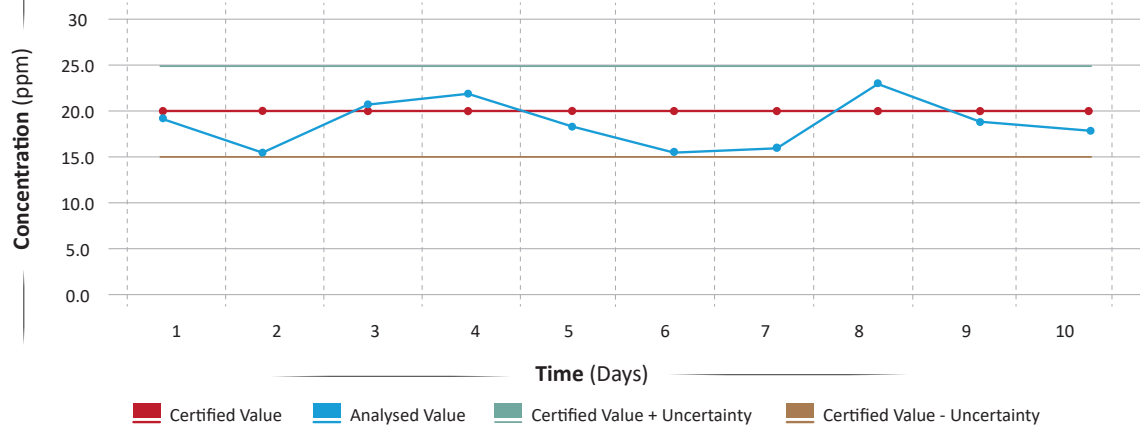
Stability Report for Oxygen in Copper
CRM ID: BSC14500A_CU_BSC
Certified Value: 17 ppm; Uncertainty: 5 ppm

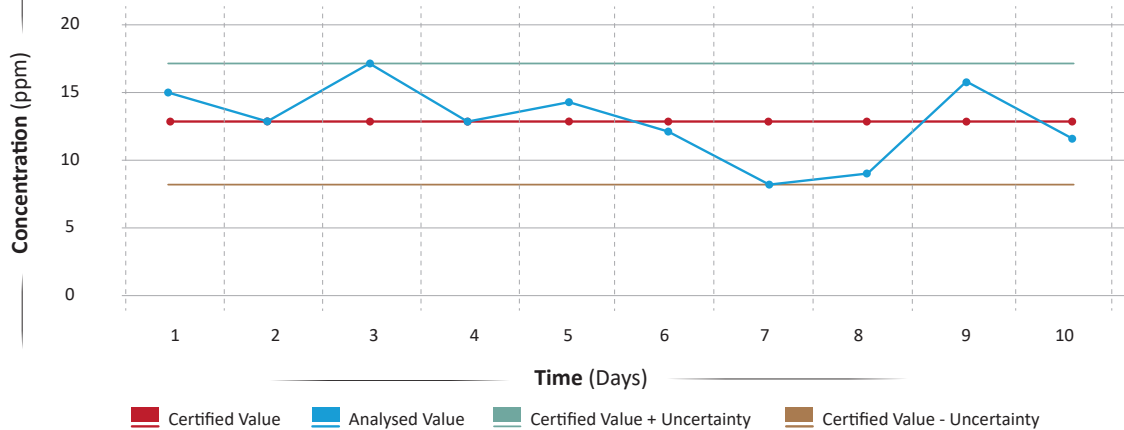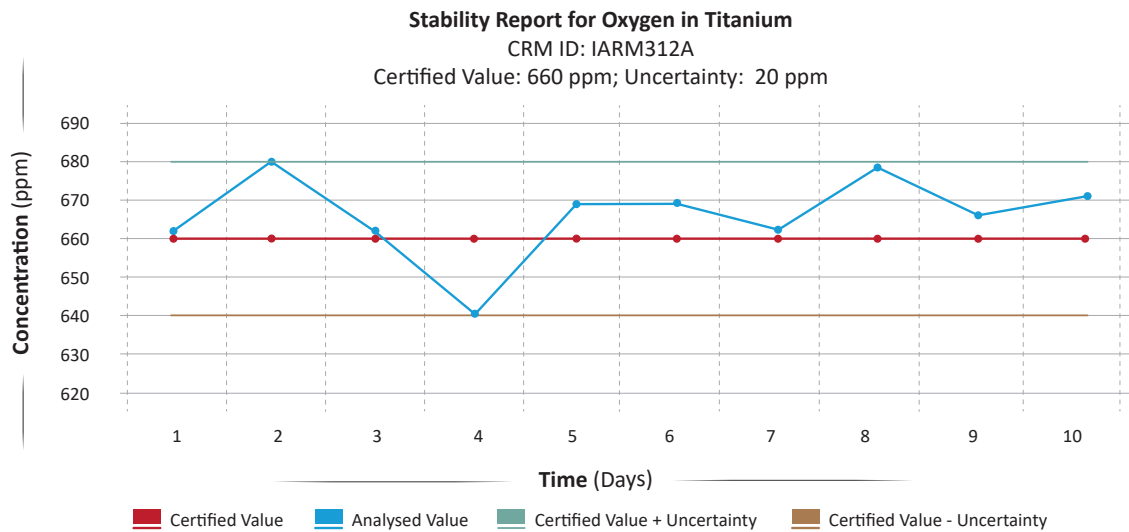Certified Value   Analysed Value   Certified Value + Uncertainty   Certified Value - Uncertainty

Stability Report for Oxygen in Nickel
CRM ID: BS200A_NI_BSC
Certified Value: 9 ppm; Uncertainty: 3 ppm

Certified Value   Analysed Value   Certified Value + Uncertainty   Certified Value - Uncertainty

Stability Report for Oxygen in Titanium
CRM ID: IARM312A
Certified Value: 660 ppm; Uncertainty: 20 ppm

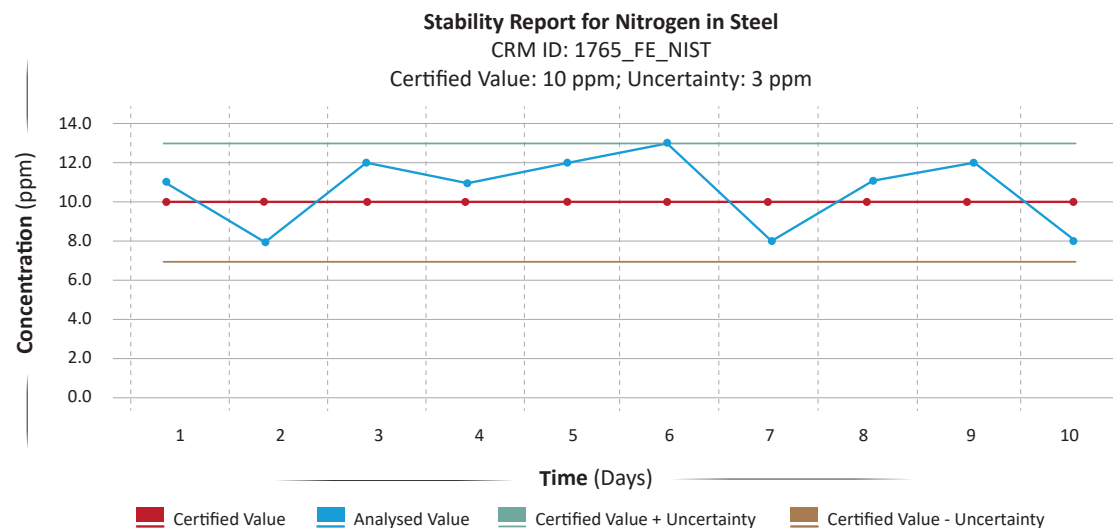Certified Value · Analysed Value · Certified Value + Uncertainty · Certified Value - Uncertainty

Key Features and Benefits

- **Exceptional Gaseous Element Analysis:** Accurately detects Nitrogen in all forms of Steels down to 10 ppm, Oxygen in Steel, Nickel and Copper down to 10 ppm, Oxygen and Hydrogen in Titanium down to 10 ppm and 5 ppm, respectively, and Nitrogen in Steel down to 8 ppm.

Stability Report for Nitrogen in Steel
CRM ID: 1765_FE_NIST
Certified Value: 10 ppm; Uncertainty: 3 ppm

Certified Value · Analysed Value · Certified Value + Uncertainty · Certified Value - Uncertainty

- **Analysis of RoHS Elements:** Low detection limits for critical elements like Cadmium, Lead, and Mercury to comply with RoHS and global regulatory standards.

- **Designed for 24×7 Operation:** Engineered for continuous, round-the-clock performance, minimising downtime, and ensuring productivity in high-throughput environments.

- **Soluble-insoluble Analysis:** Accurate analysis of acid-soluble and acid-insoluble components of Al, Ti, B, and Ca in Steels.

Image: Analysis of stainless Steel sample with Soluble-Insoluble Analysis activated for Al, Ca, Ti and B

| CRM Name	Certified			Burn 1			Burn 2			Burn 3		
	Al (Total)	Al Sol	Al Insol	Al (Total)	Al Sol	Al Insol	Al (Total)	Al Sol	Al Insol	Al (Total)	Al Sol	Al Insol
22-c	0.095	0.092	0.003	0.0965	0.094	0.0025	0.0954	0.093	0.0024	0.0972	0.094	0.0032
23-c	0.0453	0.045	0.0003	0.0432	0.043	0.0002	0.0464	0.046	<0.0010	0.0434	0.043	<0.001
24-c	0.023	0.021	0.002	0.0242	0.022	0.0022	0.0236	0.022	0.0016	0.0215	0.02	0.0015
25-d	0.002	0.001	0.001	0.0022	<0.001	0.0013	0.0022	0.0011	<0.001	0.0021	0.0012	<0.001
26-c	0.006	0.004	0.002	0.0054	0.0038	0.0016	0.0059	0.0041	0.0018	0.0059	0.0043	0.0016
27-c	0.018	0.016	0.002	0.0177	0.0163	0.0014	0.0179	0.0161	0.0018	0.0173	0.0155	0.0018

Table: Analysis of Soluble-Insoluble Certified Reference Material in Stainless Steel

- **Special Applications:** It is capable of analysing ultra-fine wires as thin as 0.1 mm and thin foils down to 20 microns and is equipped with adaptors for special applications on samples of all sizes and geometries.

SmartSTD Advantage

Traditional Multi-SUS Standardisation **30 minutes**

MPA Single-SUS **SmartSTD** **5 minutes**

Traditional spectrometers require about 30 minutes and multiple samples for standardisation, causing delays and variability in results.
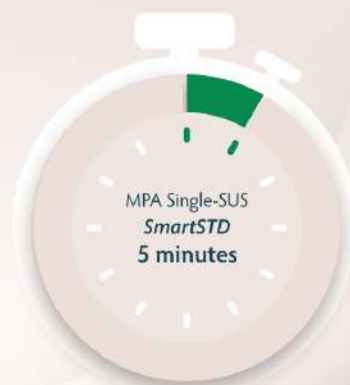
MPA's **SmartSTD** uses just a single SUS for the standardisation process and delivers a productivity upside of ~85%, along with substantial cost savings.

The **SmartSTD** feature by Metal Power Analytical enhances the speed, accuracy, and consistency of the process. This efficient approach minimises handling variability, reduces time and material costs, and optimises resources for greater ROI.

Colour Options

Classic grey

Cool grey

Matte black

Space grey

Warm grey

Technical Specifications

Parameter	Specification	Benefit
Wavelength Coverage	118-671 nm (expandable upto 800nm)	Comprehensive analysis across 60+ elements, including trace elements.
Detector Type	CMOS	Superior precision with high resolution and reduced noise for accurate results.
Resolution (RLD)	0.8 nm/mm	Ultra-high resolution ensures exceptional sensitivity and stability.
Optics Configuration	Dual vacuum-free optics	Provides superior performance without the need for vacuum pumps, reducing operational costs.
Plasma Source	Fully digital PWM	Stable plasma generation with granular control, delivering consistent results across applications.
Peak Discharge Current	100 A	Ensures high-energy sparks for better analysis and enhanced accuracy, even for complex materials.
Max Discharge Frequency	1,000 Hz	Fast analysis with minimal delay for high throughput testing and productivity.
Argon Consumption	Low, optimised for extended use	Reduced operational costs through efficient Argon consumption and extended system life.
Spark Stand	Heavy-duty, low-maintenance design	Minimises downtime, ensuring continuous operation and durability over long-term use.
Standardisation Time	< 5 minutes	Boosts productivity by 85%, significantly reducing setup time and costs.
Size	920 mm (L) x 760 mm (W) x 1360 mm (H)	Compact footprint for space-efficient installation without compromising on performance.
Weight	Approx. 210 kg	Robust design for high stability and reliable operation even in demanding environments.
Software Compatibility	**MetaLib Pro:** World's largest library for metal grade identification. **MPALabTab:** Access your OES data anytime, anywhere. **[FP]-LIMS:** Advanced data integration and analysis tool. **FRP®.melt:** Real-time melt process optimisation tool.	

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MPA LabTab

Access your OES from anywhere and on any device

3in1
SPM

Prepare sample surfaces for quality analysis

Wireless RTDS

Transmit your readings from lab to melting platform wirelessly

Armour | Safe

Protect your OES against unstable power and temperature for optimal performance

MetaLib PRO

Access the world's most comprehensive library for metal grade identification

FRP.melt

Integrated IT solution for best practice in melting and furnace operations

[FP]-LIMS

Digitise and connect your analysis instruments to manage data seamlessly

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