



**Metavision 1008i**

Laboratory Powerhouse



# Metavision 1008i

## Laboratory-grade Powerhouse

Research in the field of spectrometry has continually been focused on ever-lower detection limits and faster analysis time coupled with high precision and accuracy. At Metal Power, our R&D team focuses on these, while not losing sight of the need to deliver economic value across the product lifecycle. The *Metavision-1008i*, exemplifies all these endeavours, offering rapid and highly precise and accurate analysis of an extremely wide range elements at very low levels in ferrous and non-ferrous metals, while also offering exceptional economical value.

### Innovative optics unlocking higher value

The dual-optics system on the *Metavision-1008i* was the first to utilize Metal Power's patented D-Scan optics system. Leveraging this technology, the *Metavision-1008i* doubles detector resolution and improves detection limits, precision and accuracy multi-fold over conventional optical design. The D-Scan system reduces costs as well, delivering tremendous value. The optical system spans a wide range of wavelengths with complete spectral coverage in the range – ensuring that 35+ elements are analysed in standard factory calibrations across metals and alloys.



### Highlights

- 35+ elements in standard calibrations; Includes N, C, S, P, B etc. all to low levels
- Extreme flexibility - any number of bases and matrices, including on-site additions
- Fully digital pulsed current-controlled power source
- Thermally stabilized optics to ensure high accuracy and precision
- Latest-generation processing software for noise-free clear spectra for low detection limits with high precision and accuracy
- Grade Identification library for quick identification and confirmation of grades
- Advanced features including auto-identification of grade and matrix, ARQC etc.
- Vacuum-free optics enabling lower capital and maintenance costs and very rapid stabilization
- Special applications for master alloy calibrations, melt addition programs and more

Equally at ease in ferrous and non-ferrous applications for all manner of pure metals and alloys, the **Metavision-1008i** delivers limits as low as 15 ppm for Carbon (C) and 10 ppm for Sulphur (S) in steels. Added to this, Nitrogen (N) is also analysed down to 20 ppm, making the **Metavision-1008i** ideal for the vast majority of analytical requirements. In non-ferrous metals too, the **Metavision-1008i** delivers analysis of 99.9+% for all pure metals, with some (Cu, Pb etc.) going well beyond 99.95% purity as well.

### Powering the best results

For any spectrometer, the quality as well as the stability of analyses are very closely correlated with the quality of the power source – and the stability of the current discharge it provides. Additionally, the ability to tailor output at a granular level is critical to ensure that analysis is optimized for each element in every application. The innovative digital plasma generator of the **Metavision-1008i** comprises a fully current-controlled source with a wide range of outputs for each parameter of the discharge. With ultra-granular computer-based control over each parameter, the power unit ensures the highest levels of plasma stability and the ability to generate the ideal spectra for different applications. Designed for inputs of 90-270 V AC, this is also truly global and can be used in any part of the world without restriction.

### Modular design

The **Metavision-1008i** has been built to be very easy to service and maintain. Fully modular in its build, the instrument has optimized isolation of sub-systems to deliver twin benefits – no interference / noise and easy access for maintenance and servicing. Each system is easily and independently accessible to engineers for servicing and to operators for routine maintenance tasks. The design also ensures that no sub-system is at risk during any activity including cleaning and changing any of the consumables.

### Applications

In any spectrometer, far beyond design specifications and feature-sets, it is the nature, quality and usability of analytical outputs that drive value. To this end, the **Metavision-1008i** has been equipped with features that meet the vast majority of needs of users across sectors. This spans not just the elemental coverage and detection limits, but also the additional outputs the spectrometer and analytical suite deliver. On the analytical capabilities, this is delivered through capabilities across the vast majority of elements needed in every base. From C, S, P and N to V, Sb, Hg and As, the **Metavision-1008i** provides an immense range of coverage with low detection limits.

This apart, the analytical suite has also been crafted to deliver value through both standard and optional features. Equipped with a powerful and customizable report writing engine, the Analyst suite on the **Metavision-1008i** also offers a host of other features. Ranging from gas quality checks and proactive alert systems to Grades and CRM Libraries – both pre-loaded and user-configurable – as well as the ability to add customized Melt Addition Programs, the suite leaves no stone unturned in ensuring that the instrument enables Laboratories to maximize the value a spectrometer delivers.

Steel Plants and makers of all manner of ferrous alloys require analysis of a wide range of elements with a focus on high accuracy and precision. The **Metavision-1008i** analyses 29+ elements in ferrous metals – including Nitrogen down to 20 ppm – and covers all the key elements, excluding Oxygen, down to a level of 10-20 ppm for most elements with some being analysed to even lower levels. This makes the instrument ideal for most firms making or processing alloy steels, cast iron, alloyed cast irons and also stainless steels.

In non-ferrous applications, the **Metavision-1008i**'s high resolution

results in wide analytical ranges across elements. This ensures it analyses all manner of low as well as high alloys with exceptional analytical accuracy and precision, delivering not just trace analysis but also master alloy analysis. For pure metal producers such as those in Lead, Zinc, Copper, Titanium etc., the **Metavision-1008i** offers low limits of detection across a wide range of elements including heavy elements such as Lead, Arsenic, Cadmium etc., enabling users to meet purity requirements and also ensure compliance with regulatory norms. In pure metal applications, the **Metavision-1008i** offers detection limits that enable analysis of metals of

up to 99.95+% purity with exceptionally high precision.

Commercial laboratories cater to a whole host of industries, often analysing several hundreds of samples daily for different bases, matrices etc. For such laboratories, having a spectrometer with a high throughput, low operating costs and wide range of covered elements and detection ranges is essential to ensure satisfaction of a varied clientele. The **Metavision-1008i** has a rapid analysis time assuring high throughput and low detection limits that meet the analytical requirements of just about every industrial user, making it the ideal solution for most Commercial Laboratories.

## Metavision 1008i

### Technical Specifications

#### Optics

- Multi-optics system using latest-generation, high-resolution detectors
- Focal length of up to 250 mm
- Resolution: Down to 13  $\mu\text{m}$  ( $1 \mu\text{m} = 10^{-12} \text{ m} / 10^{-3} \text{ nm}$ )
- Thermally stabilized optics to ensure high precision and stability

#### Source

- Digital Pulsed Current Controlled Source
- 90-270 VAC; 50/60 Hz

#### Accessories and Options

- Wire and Fine Wire Analysis Adapters
- Spectrometer Sample Surface Polishing Machines
- CleanSharp
- Certified Reference Materials (CRMs)
- Argon Purifiers

\*Specifications are subject to change on account of product upgrades



### The Metal Power Advantage

In addition to these, the *Metavision-1008i* also offers some unique features that truly set it apart from other instruments in its class. These include the analysis of rods and wires and of foils as thin as 50 microns (0.05 mm). Metal Power also offers Master Alloy calibrations to meet the needs of alloy-makers who are now able to accurately assess major as well as trace elements accurately even in the master alloys. These apart, through our in-house Applications Lab, Metal Power also offers custom development of applications to meet specific and unique needs of individual users.

### Highest Level of Customer Satisfaction

Our primary objective is to provide the industry with reliable and rugged instruments at affordable prices. In each category, Metal Power's spectrometers offer industry-leading performance, coupled with the lowest costs of ownership. We understand the criticality of our instruments to the operations of our customers and are committed to ensuring minimum downtime.

Our extensive team of dedicated and highly trained service engineers are equipped to handle service issues on our products. This is supported by an efficient call-logging system that is accessible to all customers via our phone lines, email or website.

For customers in the Indian sub-continent, Metal Power offers direct service support and a toll-free helpline (India-only) with a direct field-support team of 35+ in-house engineers spread across 17 locations. In all other markets, Metal Power assures the highest level of service through our authorized partners' engineers, with each trained in regular programs conducted by Metal Power.

All our engineers and partners are supported by our dedicated Central Helpdesk and also provided access to Applications Support when the situation so demands.

Our other products

**Metavision 10008X**

The zenith of sensitivity



**Metavision 1008i<sup>3</sup>**

When excellence is not good enough



**Metavision 108NN+**

Rugged and versatile thoroughbred



**MOSS**

Compact and affordable



**Metavision M Series**

High performance on wheels



**HSCAN**

Rugged, accurate & economical



**Argon Purifier+**



**CleanSharp**



**Wire Adaptors**



**Sampling Mould**



**Sample Surface Preparation Machines**



**Certified Reference Materials**



**Proficiency Testing Services**



Founded in 1987, Metal Power provides a comprehensive range of products, applications and services to meet the analytical needs of metal industries. Our product portfolio spans Laboratory Optical / Atomic Emission Spectrometers (OES / AES), Mobile Spectrometers, Hydrogen analysers for molten Aluminium, Certified Reference Materials (CRM), Sample Preparation Machines for spectrometers as well as a wide range of accessories.

Apart from the product range, Metal Power through its Laboratory Division also offers services in Material Analyses and Proficiency Testing for other laboratories. Today the Company boasts over 30 years of experience serving the needs of ferrous and non-ferrous metals industries and has a truly global presence, spread across more than 35 countries in 5 continents.

True pioneers in the field of CCD-based Optical Emission Spectrometers, our product philosophy is driven by the focus on offering a tailored model to meet every customer need – both analytical and financial. As an outcome, we offer the world's widest range of spectrometers – with each offering positioned to be the best-in-class in terms of features as well as on economic value.

Our stationary spectrometer range spans from the high-end R&D-grade **Metavision-10008X**, that delivers virtually every feature known in spectrometry, through the rugged, Laboratory-grade **Metavision-1008i<sup>3</sup>**, **Metavision-1008i** and **Metavision-108NN+**, to the entry-level **MOSS** – the world's smallest, most economical and first truly scalable OES. In mobile OES too, we offer different models, each with a choice of probes – Arc, Spark and UV – to meet every user need.

The common denominator across all our offerings – products, applications and services – remains our commitment to deliver the highest level of quality, reliability and uptime, while also offering the lowest cost over the product lifecycle, through low acquisition costs supported by the highest quality of service and after-sales support to our customers – wherever they may be.



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