



Metavision M-Series

High performance on wheels



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Several metal applications require a spectrometer to be mobile and call for a probe as opposed to the standard sample stands. Positive Material Identification (PMI) is one such application which is of growing importance. Built with such applications in mind, the *Metavision M-Series* of mobile spectrometers come equipped with hand-held probes and are designed to be rugged, ergonomic and equipped with an on-board computer, touchscreen and batteries to allow for sustained usage even in places without power supply sources.

Key Applications

Scrap Sorting

Sort scrap based on whether it meets grade requirements

Ship-building/breaking

Move the OES to the test site when parts are large

Raw material testing

Test grades at in-gates before unloading

Shop-floor testing

Segregate material or conduct random tests on-floor



Highlights

Integrated 15" touchscreen

Light and compact design

Ergonomic multi-functional probes

High-resolution optics with wide span
(Range of options – up to 671 nm)

Rugged design with high mobility

Long-life battery backup

Variants

- 108M
- 1008M
- 1008M³

Features

- Rapid analysis time of just a few seconds
- UV probe option with on-probe touchscreen
- Low total cost of ownership
- Full Ethernet connectivity
- Analysis of UV and visible range elements
- Mobile for easy maneuverability
- Light and ergonomically-designed handheld probes with on-probe Start and Reset buttons
- LED indicator for Pass/Fail – particularly useful for sorting
- Grade Identification library for quick identification and confirmation of grades
- Vacuum-free optics enabling fast stabilization
- Battery that enables usage even in locations without power sources

Several metal applications – most particularly in recycling and scrap, but also frequently in routine metal processing or incoming / outgoing QC – require a spectrometer to be mobile and call for a probe as opposed to standard sample stands that feature on stationary spectrometers. Positive Material Identification (PMI) is one such application which is of growing importance. If a material certificate is missing, material is mixed up or it is not clear what the composition of a material is, PMI offers a quick and accurate solution. Similarly, one-click pass/fail assessment is an essential tool to enable quick scrap sorting / segregation or grade identification.

Built with such applications in mind, the **Metavision M-Series** spectrometers come equipped with hand-held probes and trolleys that are easy to move to the goods as opposed to carrying samples to a Lab. Rugged enough to withstand shopfloor stresses and provide fatigue-free operations across a range of environmental and working conditions, these spectrometers also come equipped with long-life batteries enabling several hours of sustained usage even in places without power supply sources.

Large Plants typically have a massive inflow of raw materials. Testing such incoming material for grade adherence even before unloading can substantially help reduce testing times, costs and also the time taken before accepting / rejecting a lot. Mobile spectrometers are ideally suited for such testing. With their wide elemental coverage, a rugged design, on-board computers, touchscreens and long-life batteries, the **M-Series** spectrometers are ideal to meet the requirements of such users

Users dealing with extremely large components, such as those in ship-building or breaking face a unique situation wherein it's virtually impossible to take the parts to

the lab given their sheer size. For such users, any testing requires the OES to be moved to the parts – which can be several hundreds of meters apart. For such users, a high-end mobile spectrometer like the **Metavision-1008M³** offers the ideal solution with the combination of low detection limits, UV probe option as well as high mobility.

Large shop-floors and stockyards often see vast amounts of material stored in multiple places – and generally without accompanying certificates. In such scenarios, the mobile OES offers an easy way to test the grade of the material. Another use that the mobile spectrometers serve for such users is rapid

in-process testing without the need to take samples over to a Lab which may be a long distance away

Users who buy scrap for raw material need rapid and on-site grade testing to select or reject material. The PMI function of the M-series spectrometers is ideally suited to the needs of such users. With on-probe display for Pass/Fail and rapid analysis times of just a few seconds, the **M-Series** spectrometers offer such users the optimal solution to meet their grade testing needs.

Technical Specifications - **Metavision M-Series**

Optics Features

- Single optics or Multi-optics using patented D-Scan methods with latest-generation, high-resolution detectors
- Spark probe range: 180 nm onwards (up to 671 nm depending on model)
- UV probe range: 165 to 210 nm
- Multiple options of probes and optics to meet specific needs

Probe

- Spark probe with on-probe Pass/Fail indication
- UV probe with on-probe touchscreen (optional)
- On-probe buttons for ease of operation

Analytical Features

- Dedicated modes for PMI and analysis
- Analysis of ferrous and non-ferrous metals
- Multi-base capability
- Auto Selection of Base, Matrix with Analysis of Chemical Composition
- Check-burn facility with deletion of Poor Burns
- Display of Mean Value and RSD/SD
- Global and Type Standardization
- Simple Re-standardization
- MetSort Analysis Software for sorting metals element-wise

- Carbon Equivalent (CE)
- Analysis of 40+ elements including N, P, Zn, Li etc. (depending on model)
- Merge spectrum for easy use in Re-standardization

Software

- Touch-optimized operating software suite
- Integrated computer with operating system
- Selectable Burn Parameters for Optimizing Analysis
- Automatic Unlimited Log of all Analytical and Spectral Data
- Powerful & Flexible Report Writer-Designer
- Customized Element View & Decimal Point Position
- Melt Addition Programme
- Check-Sample facility with Graphical Representation
- Grade Library
- Search CRM from CRM Library
- Database Management
- Audio-Visual Help for Users to get Operational & Maintenance Assistance

Environment Conditions

- Relative Humidity: <80 % (non-condensing)
- Storage Temperature: 0 - 70°C

Metavision 10008X

The zenith of sensitivity

Designed to meet the highest and most stringent standards of performance, reliability and repeatability, the **Metavision X-Series**, with its innovative multi-optics system, extended wavelength range and plethora of analytical features, assures the entire gamut of analytical features and analyses of the widest range of elements right down to trace levels.



Key Features

- Wavelength range from 120-800 nm to cover 50+ elements
- Ultra-low detection limits for Carbon, Nitrogen, Oxygen etc.
- Trace analysis across all key elements in all types of metals and alloys
- Time-resolved spectrometry (TRS), soluble-insoluble analysis

Metavision 1008i³

When excellence is not good enough

Using the patented D-Scan and M-Scan optics, the **Metavision i-Series** spectrometers deliver high resolution and low detection limits with high accuracy and repeatability making them the go-to solutions to nearly every commercial requirement in metals industries.



Key Features

- Wavelength range from 130-670 nm to cover 40+ elements
- Low level analysis for Carbon, Nitrogen and key elements across applications
- Optimised for analysis of high-purity metals and alloys including Aluminium, Copper, Lead, Zinc etc.
- Comprehensive range of diagnostic and safety features

Metavision 108NN+

Rugged and versatile thoroughbred

The **Metavision N-Series** spectrometers are compact, robust and economical instruments that are designed to deliver industry-leading performance across the widest range of industries, applications and environments. The truly innovative design delivers rapid, precise, accurate and certifiable elemental analysis in weight percentages of metals and stands the test of time.



Key Features

- Wavelength range from 160-410 nm to cover all key elements across all metals and alloys
- Multi-base capability for seamless upgrades at any point in time
- Analytical capabilities across 30+ elements including Carbon, Nitrogen, Sodium, Lithium etc.
- Rugged, stable, precise and industry-leading price - performance ratio

SPARTAN

Compact and affordable

The **Spartan** shares its DNA with the **Metavision N-Series** and has been custom-designed to address the needs of users who need spectrometers, but are inhibited by the capital cost involved. The **Spartan** is a rugged and compact solution that meets all the critical QA needs of fast-growing and quality-conscious MSMEs.



Key Features

- Extremely easy to use - fully PC-controlled and rapid analysis time of just a few seconds
- Proven long-term stability and repeatability with high accuracy and precision
- Grade Identification library for quick identification and confirmation of grades
- Lowest Capital cost and Total Cost of Ownership in the world

H-SCAN

Rugged, accurate & economical

Metal Power's *H-Scan* Analyzer has been built to rapidly and accurately analyze the Hydrogen content in molten Aluminium, enabling efficient de-gassing to minimize porosity in castings. This in turn reduces the risk of rejections and mechanical failure.



Key Features:

- Very low cost per analysis – just INR 5 (USD 0.07)
- Analysis time of just 3 minutes – to ensure enough time for de-gassing operations
- Industry-leading levels of accuracy
- Extremely rugged – built to withstand the harsh environment of a foundry

The Analyst

At the Core of Innovation

The Analyst suite has been designed in-house by our R&D team to deliver the most wide-ranging and advanced set of functionalities in a comprehensive and yet easy-to-use suite. Our Applications Lab constantly expands and enhances *The Analyst*. All customers are assured of free upgrades for a period of two years.



Applications to ensure that capabilities translate into value

Aside from routine applications to analyze pure metals and alloys, Metal Power also offers a range of proven special applications for analysing thin foils, special tool steel, wires, rings, coins, pig iron and several more. Our Applications Lab also designs customised applications for customers with even more specialised needs.

Other Products



Integrated Safety Panels

In several markets, the quality of power supply remains poor. Our patented Integrated Safety Panels protect your Spectrometer Systems (and any other connected equipment) from a variety of issues including Short Circuits, Over Voltage, High Surge, Earth Leakage etc. They offer Fault Indications and maintain logs as well, ensuring the best possible protection for expensive equipment.



Remote Transmission and Display Station (RTDS)

In large foundries and steel plants, the melting platform and the Laboratory are quite often removed from each other by as much as a few hundred meters. The wi-fi enabled RTDS systems enable results to be transmitted seamlessly from the Lab to the melting platform on a real-time basis.



Wire Adaptors

Metal Power Wire Adaptors are designed to analyze wires and wire rods from 2mm to 13mm in diameter. We also offer specialized adapters for more specific requirements where wire sizes may be even lower than 2mm – to as low as 0.4 mm in diameter.

Sample Surface Preparation Machine

MiniPol, 2in1, 3in1 and 3in1-AFVS
Compact, non-polluting, low noise and handy machines for ferrous and non-ferrous metals.

- Turning, Grinding and pointing of electrodes.
- Auto-Grit collection system for sample preparation.
- Customised setting for grinding surface area.



Sample Preparation Mould

A range of sample preparation moulds are available for sampling from the furnace/ladle. The choice of mould depends on the molten metal to be sampled.



“Excellence is an art won by training and habituation.
We do not act rightly because we have virtue or excellence, but
we rather have those because we have **acted rightly**.
We are what we repeatedly do.
Excellence, then,
is not an act but **a habit.**”

- Aristotle

Metal Power provides a comprehensive range of products and services to meet the analytical needs of metal industries. Our product portfolio spans Laboratory Optical / Atomic Emission Spectrometers (OES / AES), Mobile Spectrometers, Hydrogen analyzers 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 25 years of experience serving the needs of the ferrous and non-ferrous metals industries and has a presence across more than 30 countries globally.

With close to three decades of experience in the field of CCD-based Optical Emission Spectrometers, we offer a wide product range to cater to a diverse set of customer needs. Our stationary spectrometer range spans from the high-end *Metavision X-Series* through the rugged, Laboratory grade *Metavision i-Series* and *Metavision N-Series* to the entry level *Spartan*. In mobile OES too, we offer three different models, each with a choice of probes, to meet specific user needs. The common denominator across the range remains our commitment to deliver the highest quality of analyses while also offering the lowest cost per analysis over the product lifecycle.



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