METAL POWER

Metavision RX

Extremely rugged oil analyzer

OIL ANALYSIS USING RDE-OES

ANALYZE WEAR METALS, ADDITIVES AND CONTAMINANTS

www.metalpower.net

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The best possible line combinations for every element at every concentration level.

The ***Metavision-RX*** is a Rotating Disc Electrode (RDE) spectrometer designed to meet the highest level of analytical requirements when it comes to oil analysis. It's fully CMOS/CCD optics use the latest generation ultra-high resolution CMOS/CCD detectors to perform fully quantitative determination of metallic elements in oils and lubricants. With its compact and rugged design, the unit delivers exceptional accuracy and precision combined with low detection limits, while not compromising on economy. Capable of analyzing 33+ elements with detection limits down to 0.01 ppm, this RDE Optical Emission Spectrometer is ideal for a wide range of quality-conscious users.

Innovative optics driving optimal value

The *Metavision-RX* features ultra-high resolution dual optics, employs the latest generation CMOS/CCD detectors and custom-developed optical components, offering class-leading resolution that directly translates into lower detection limits, higher stability and better elemental coverage than any other OES in its class. Added to this, the entire optical system is hermetically sealed and thermally stabilized to a low temperature, which minimizes thermal noise and further improves performance.

With a full range capability of 165-800 nm, including dedicated (optional) Optics for Sulphur analysis, the *Metavision-RX* covers all the required elemental lines – capable of analyzing 33+ elements across bases in standard configurations – and the potential to add still more besides. The *Metavision-RX* delivers class-leading resolution and the usage of custom-developed components and applications ensures that it analyses every element with great accuracy and precision even at extremely low concentration levels (down to 0.01 ppm) making it the ideal solution for even the most stringent applications.

Powering the best results

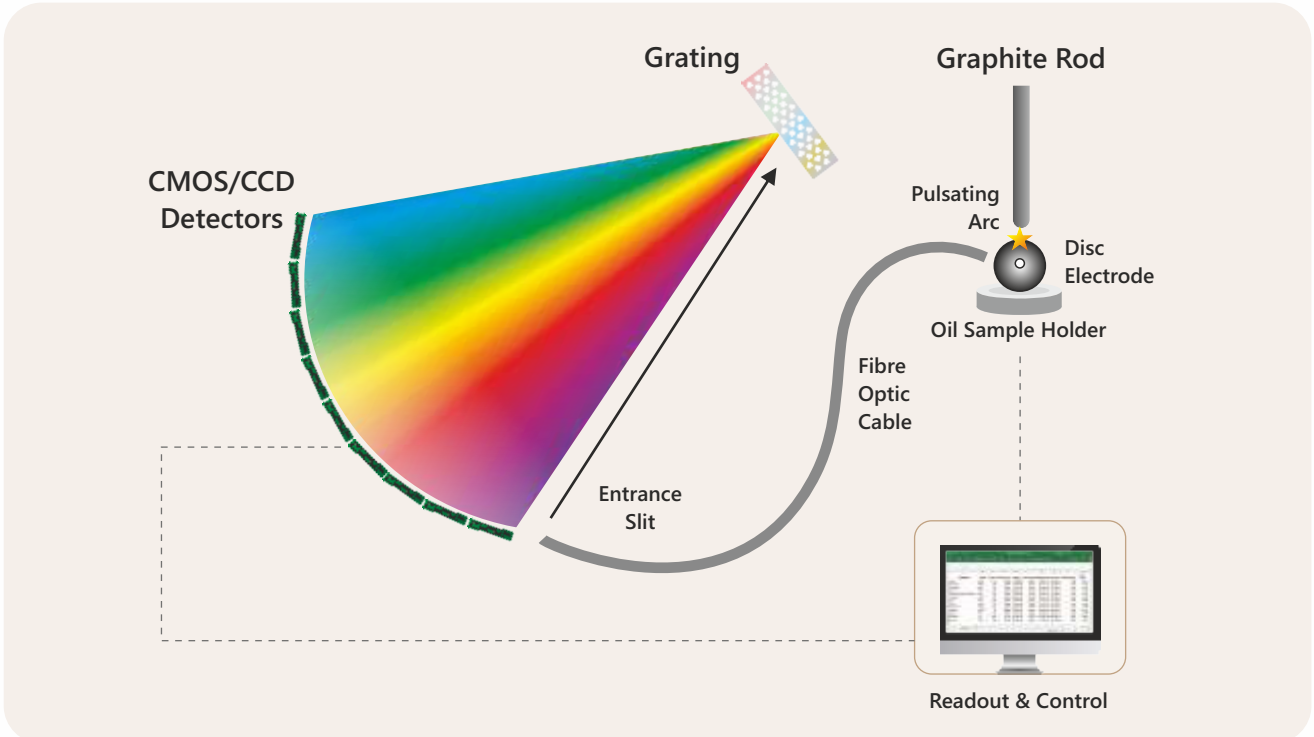
For any spectrometer, the quality as well as the stability of analyses are very closely correlated with the quality of the power source – and the stability of the current discharge it provides. Additionally, the ability to tailor output at a granular level is critical to ensure that analysis is optimized for each element in every application. The innovative digital plasma generator of the *Metavision-RX* comprises a fully digital source with ratings that ensure an exceptionally 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-RX* 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.

High economy on all aspects

The *Metavision-RX* offers ultra-rapid analyses and employs an optics design that negates the need for any vacuum pumps. It also reduces Argon consumption to the lowest levels by eliminating constant purging. The instrument is also seamlessly upgradable at-site to add elements and calibrations as required and the design of parts that require routine maintenance, the software interface and applications suite are all designed to be usable even by laymen. This ensures optimal investment protection and class-leading analysis and ownership costs across each stage of the product lifecycle.



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*ASTM D6595 compliance

Highlights

- Complete spectral coverage in the range of 165-800 nm; including Sulphur in DUV region
- Thermally stabilized optics enabling high stability with low detection limits
- Simultaneous analysis upto 33 elements
- Fully quantitative analysis of Oils / Lubricants
- Extremely rugged and state-of-the-art featuring latest electronics and detector technology
- No solvents or chemicals required
- High degree accuracy and precision coupled with rapid analysis
- Advanced instrument and user safety features
- Latest-generation processing software for noise-free clear spectra for ultra-low detection limits with high precision and accuracy
- Comprehensive diagnostic systems including error detection, reporting and logging
- Vacuum-free optics enabling lower capital and maintenance costs and very rapid stabilization

Technical Specifications

Optics

- Multi-optics system using latest-generation, high-resolution detectors
- Wavelength range: 165-800 nm
- Focal length of up to 400 mm
- Gratings of 2,400 gr/mm & 3,600 gr/mm
- Thermally stabilized optics to ensure high precision and stability

Source

- Digital Source; 90-270 VAC; 50/60 Hz

Accessories and Options

- Sulphur Analysis (DUV Optics)
- Oil Standards (CRMs)
- Argon Purifiers

Applications

The *Metavision-RX* is the ideal solution for condition monitoring programs aimed at detecting wear of system components or potential points of ingress for contaminants into the system through detection of wear metals, contaminants, and other impurities in lubricating oils, engine oils or coolants. This analysis, coupled with knowledge of the system design, allows for precise identification of problems, implementation of mitigation measures, and helps to prolong the life of the equipment.

Heavy Industries: The *Metavision-RX* can be deployed for usage in a wide range of industrial settings, such as manufacturing plants and power generation facilities, to analyse the condition of lubricating oils and coolants in machinery, gears, bearings, and other equipment to identify when these need replacement.

Aviation, Automotive and Railways: The *Metavision-RX* is an excellent solution for all sectors of the transportation industry where its analysis results help assess the condition of lubricants, engine oils and coolants in engines, gearboxes, and other systems. This analysis is critical to ensure the safe and efficient operation of engines in ships, locomotives, aircrafts etc.

Power Generation: Power generation facilities use turbines, generators and all manner of heavy as equipment with moving parts that need constant flows of lubricants and coolants and which also require constant condition monitoring to avoid potentially catastrophic failures. The *Metavision-RX* with its high throughput, rapid analysis times and high accuracy is the ideal RDE OES to conduct wear analysis as well as guide maintenance procedures in such settings.

The Metal Power Advantage

The ***Metavision-RX*** features the latest generation CMOS/CCD detectors in an ultra-high resolution optical configuration to deliver elemental analysis down to single ppm levels with high accuracy. Apart from routine analytical features, the ***Metavision-RX*** can also carry applications customized for specific user needs and supports the ***MetaCloud*** suite as well as the ***Wireless RTDS*** system.

World-wide service support

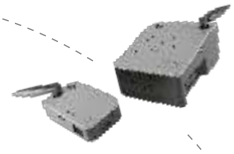
Metal Power offers multi-modal Service support to all customers globally and prioritizes customer proximity through true omnichannel access. Underpinned by our Salesforce system, all customers get immediate access to Service and call-logging through the MetaCloud mobile app, website forms, telephonic access, email and WhatsApp chat. Each call is logged instantly on the CRM and is tracked against stringent SLAs. Customers too can track the progress and status of any call via MetaCloud which provides them instant updates from the CRM. For addressing calls with immediacy, apart from direct site visits, we ensure that customers always have access to online / remote support as well.

With a team of 35+ in-house engineers and a large and high-quality pool of trained engineers through our partners, we guarantee the highest level of service and delight. Each of our engineers is a highly-skilled professional and we ensure that all possess extensive knowledge and experience in the field, allowing us to address any customer needs promptly and efficiently. All our engineers and partners, and therefore our customers are also supported by our dedicated Central Helpdesk that provides guidance, coordination and also Applications Support based on what each situation demands. Each Service interaction is closely monitored, with internal assessments and customer feedback being used to continuously improve service levels and Customer Delight.

A comprehensive ecosystem for your ***Metavision RX***

MetaCloud
Access your OES from anywhere on your mobile / computer

Wireless RTDS
Wireless remote transmission of lab reading up to 1km distance



ArmourSafe
Best possible protection for your OES

Care Programs
A range of comprehensive service programs for maintenance of your spectrometers

Our other Optical Emission Spectrometers

Metavision-10008X
The zenith of sensitivity

Metavision-1008i³
When excellence is not good enough

Metavision-1008i
Laboratory powerhouse

Mobile-OES
High performance on wheels

MOSS
Compact and affordable

Founded in 1987, Metal Power provides a comprehensive range of products, applications and services to meet the analytical needs of Production and Quality Control/Assurance Laboratories. Our product portfolio spans Laboratory (Stationary) as well as Mobile Optical/Atomic Emission Spectrometers (OES/AES) for metals analysis, Rotating Disc Electrode (RDE) Spectrometers for analysis of oil samples, Sample Preparation Machines for spectrometers as well as a wide range of accessories and allied instruments that help optimize the analytical outputs of our spectrometers.

Today the Company boasts over 35 years of experience in spectrometry and has a truly global presence, directly and indirectly supplying and servicing our customer base across 35+ countries spread over 6 continents.

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

Metal Power Analytical offers both Stationary (Laboratory) as well as Mobile OES for metals analysis. Our stationary spectrometer range spans from the R&D-grade ***Metavision-10008X,*** that delivers virtually every feature known in spectrometry, through the Laboratory-grade ***Metavision-1008i³*** and ***Metavision-1008i,*** 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, UV and combined probe options – to meet every user need.

The ***Metavision-RX*** RDE-OES offers the very best option for customers that wish to analyze oil samples for contaminants, additives and/or wear metals. Including the option of Sulphur analysis, the instrument offers the widest elemental coverage, and leverages all our expertise in the field of CMOS/CCD detector-based optics to offer low detection limits with exceptional accuracy and precision.

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233947 08/2023 www.zandb.in