



Which kind of metal alloys can be analyzed?

The Metal Lab Plus spectrometer can be configured for the analysis of all the most important alloys as:

- Fe base: Cast Iron, Carbon & Low alloy, Stainless steel, Tool Steel, etc.
- Al base: from Aluminium 99 to secondary Al-alloys as Al-Si, Al-Si-Cu, Al-Zn, etc.
- Cu base: Low alloy copper, Bronze, Brass, Cupro-nickel, Nickel-silver, etc.
- Ni base: Inconel, Incoloy, Hastelloy, etc.
- Co base: all different Stellite grades
- Zn base: Low alloy Zinc and Zamak grades
- Pb base: Low alloy lead, Battery alloys, etc.
- Mg base: AZ grades, Mg with rare elements
- Ti base: Ti-Al-V, Ti-Mn, etc.

Key features of the Metal Lab Plus Spectrometer:

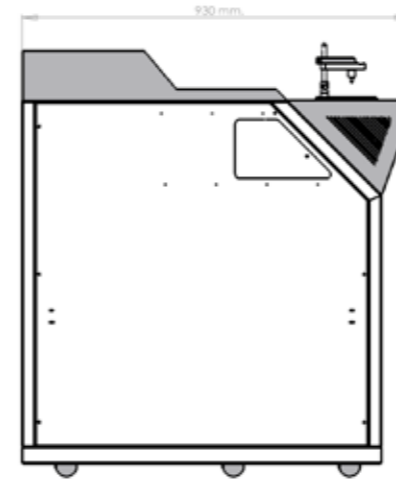
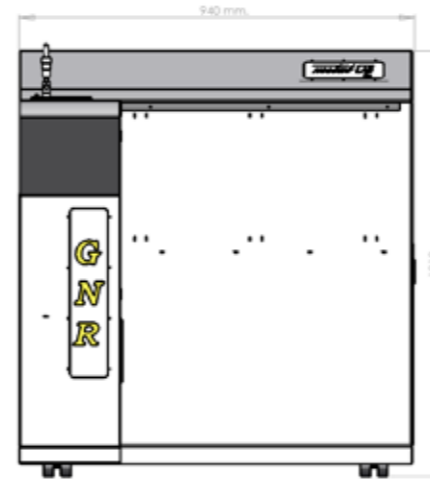
- High analytical performances
- Flexibility, stability and reliability
- Accuracy and reproducibility
- High class certified standard calibration
- High Energy Pre Spark (HEPS) source PC controlled
- Shorter analysis time
- High range of metal analysis
- Advanced software technology
- Very intuitive software for unskilled operators
- Advanced service support
- Continuous upgrade possibilities to increase productivity



METAL LAB PLUS



METAL LAB PLUS



TECHNICAL DATA

Multi Optic System: Multi High Resolution CCD optical chamber vacuum system with up to 16 CCD solid state detectors depending on specific application.

Spectral field: wide spectral field from 130 to 900 nm. High luminosity holographic grating.

Source: Multi-frequency HEPS spark source. Excitation parameters fully controlled by computer.

Software: MLab software running under Windows is very easy to use. Facilities are available to the operator include Analysis, Standardisation (both conventional and type methods), Certificate generation and printing, Networking and transmission of results. Remote diagnosis is also available. SPC (Statistical Process Control) is available as an option.

Personal Computer (optional): Intel i3, 4 Gb Ram, 250 Gb HD, Combo DVD + DVD RW, Monitor 19 LCD, mouse, keyboard and HP deskjet printer

Power supply: 110/220 VAC 16A 2.5 KW

Dimensions: D 93 x W 94 x H 101 cm

Weight: 160 Kg c.a.



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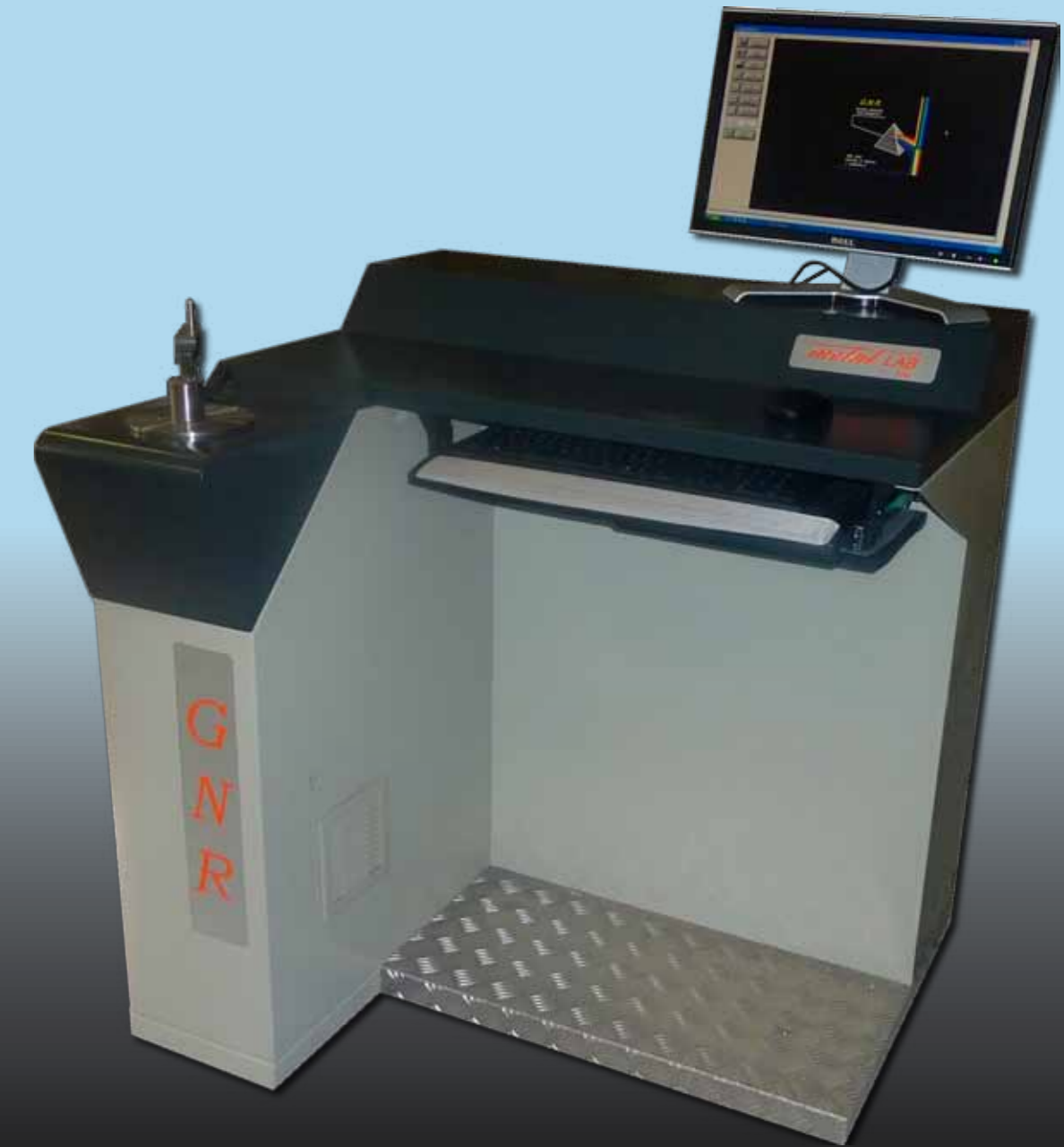
Local Agent

NEW



ANALYTICAL INSTRUMENTS GROUP

25 years of technology



METAL LAB PLUS

In relation to the process of continuous development, G.N.R. reserves the right to change the specification of the instrument without previous notice at any time.

G.N.R. proudly presents the new METAL LAB PLUS, ideal solution for laboratory working station optical emission spectrometer. Following the success of the previous generation METAL LAB, worldwide acclaimed

as one of the best laboratory instrument for chemical alloy analysis, G.N.R. is now launching the new version with multi-CCD optics and newest technical solution and ergonomic design.

METAL LAB PLUS

OPTICAL EMISSION SPECTROMETER



The new Metal Lab Plus is the result of 30 years of experience in developing and manufacturing optical spark emission spectrometers. It can be considered as a laboratory metal analyser with improved analytical performances, high flexibility and easy to use.

Manufactured with the highest quality components, MLP is developed with multiple metal base analysis in mind. It is well suitable for routine analysis in the process control, for monitoring in quality control as well as in research and development for complicate or special analytical needs.

Internationally certified standards are used during the factory analytical set up to ensure accurate calibration. The data is then examined along with precision and repeatability test to ensure that the performance is optimum for each application. For more complicate requirements a group of specialists can help you to develop new analytical methods and to solve your needs.

A high performance PC programmable Multi Frequency Source unit ensures that complete spark power stability is achieved allowing a significant increase in precision and a reduction in analysis time.



Adaptors and reducer rings allows to analyze even small samples and thin wires

Some of the main advantages are:

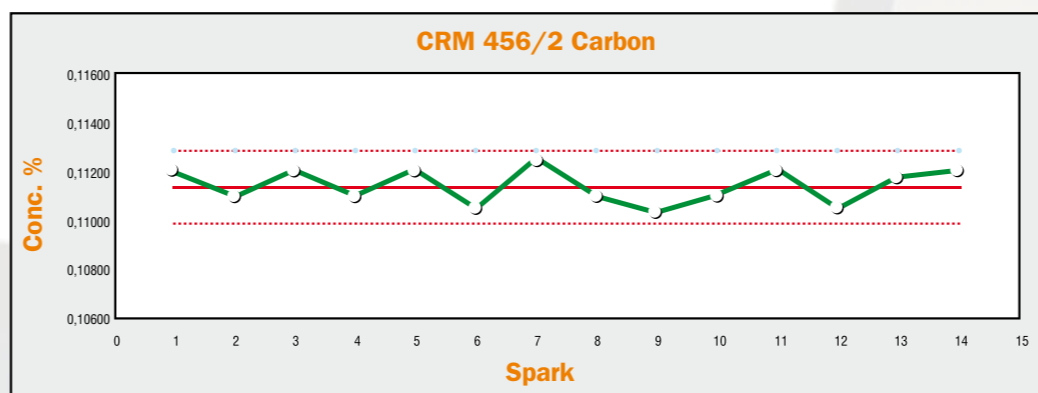
- Fast: you can repeat the analysis in few seconds
- Dynamic Range: from ppm to %
- Versatile: any metal and many shapes can be analysed
- Accurate: better than 1% relative
- Economical: low capital cost investment and operating cost
- Capability of nitrogen analysis in steels



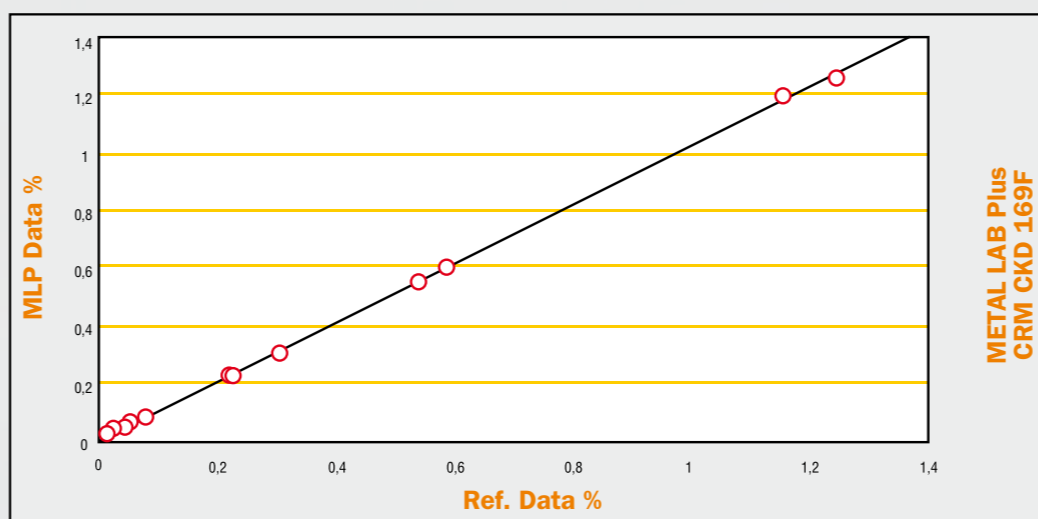
The new CCD detectors ensure the best and wide spectral range.



If you are looking for an instrument that combines ease of use, high accuracy of results then the Metal Lab Plus is the instrument for you. Thanks to its ergonomic design and dimension, the use of high quality components throughout, the Metal Lab Plus is equally at home in a laboratory or foundry or other establishment and can be supplied calibrated for several bases in one compact instrument. Metal Lab Plus is available with different configurations, able to analyze any different kind of metal alloys, ferrous and non ferrous ones.



Typical example of the superior performance of the MLP spectrometer, able to achieve the best results in accuracy as well as stability.



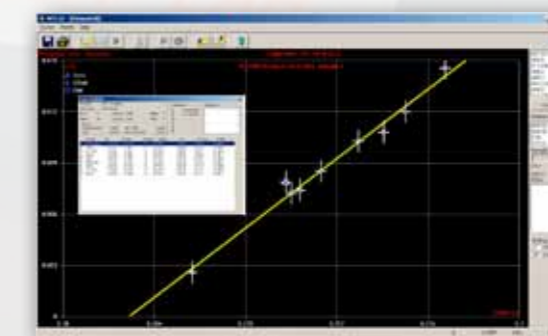
CRM CKD 169F							
	Ref. Data %	Conc. %	SD		Ref. Data %	Conc. %	SD
C	0,230	0,232	0,002	Mo	0,840	0,846	0,004
Si	0,310	0,306	0,002	Al	0,020	0,019	0,0005
Mn	0,590	0,594	0,002	Cu	0,240	0,237	0,001
P	0,059	0,061	0,0008	Ti	0,030	0,033	0,001
S	0,055	0,052	0,001	V	0,540	0,546	0,005
Cr	1,250	1,255	0,004	Co	0,095	0,091	0,0009
Ni	1,160	1,168	0,005	Sn	0,011	0,012	0,0004



GNR Analytical Instruments, thanks to its more than thirty-years experience in the field has tuned-up a huge range of analyzers in order to offer the most suitable instrument for any need.

From our expertise we are able to offer with Metal Lab Plus (MLP) a perfect unit able to cover multi-matrix analysis requests and at the same time granting the flexibility of easy upgrade for future needs.

Thanks to the method precision and the short analysis time, it represents a valid control system of production in all the fields regarding metal industry (primary alloys foundries, metal processing industries, mechanical industry) in any time during production cycle, in the case it is necessary to have a fast and accurate chemical analysis of material. MLP is able to perform both trace's analysis and day-to-day QC tests, the software MET32 is a powerful program with an intuitive graphic-user-interface, supporting the operators and guiding them through the several phases of tests till the final printing of Analysis' Certificate.



Calibration curve for Nitrogen

Optional external arm with the probe to check bigger samples in ferrous and non ferrous alloys.



METAL LAB PLUS

OPTICAL EMISSION SPECTROMETER