

# MISSION: Z118

*Light speed analysis*

## MISSION: Z118

MISSION: Z118 is the ultimate routine benchtop elemental analyzer currently on the market. MISSION: Z118's unique platform allows it to fulfill the most demanding customer needs of reproducibility, robustness, precision, accuracy, and sensitivity. It enables direct analysis of solid samples (e.g. iron, aluminum, rocks, etc.) without mechanical sample preparation, to remove the sample's oxide layer (like is the case with Spark-OES). Sensitivity from high ppb to mass percent is achievable on a routine basis with many different materials. MISSION: Z118 allows laboratory analysis – in matter of seconds per sample – for quality and process control. This innovative instrument conducts simultaneous multi-elemental analysis for routine work, as well as for the most demanding analytical developments.



## ADVANTAGES OF LIBS

Laser-Induced Breakdown (Atomic Emission) Spectrometry (LIBS) analysis is, by far, the fastest technology with 50  $\mu\text{m}$  spatial resolution currently on the market. The reasons are many:

- **Versatility:** LIBS can analyse any metal and any non-conducting material in different shapes and forms
- **Adaptability:** LIBS can dry, clean, and analyse materials with paint, dirt, oxide, water, etc.
- **Speed:** A single LIBS analysis takes less than 0.01 seconds (10 milliseconds, or 100 Hz) or faster
- **Range:** LIBS ranges from trace (sub-ppm) to percent concentration levels
- **Accuracy:** With certified type standards, LIBS accuracy is nominally better than 1% relative
- **Simplicity:** LIBS requires no sample preparation
- **Savings:** LIBS has a rapid Return on Investment (ROI) and low operating costs



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## APPLICATIONS

- Metallic alloys
- Metalloids
- Non-conducting materials
- Rocks sorting for mines (high-grade, mid-grade, low-grade and gangue ore)
- Fertile soils
- Contaminated soils
- Oil and wear particles analysis
- **And many mores ... ask us!**

## CAROUSEL BASED ELEMENTAL ANALYZER

**Scanning:** can scan area of more than 40 x 40 mm<sup>2</sup>

**Scanning speed:** 1 000 measurements per second (1 000 Hz)

**Depth-of-field:** Auto-focus made on each sample to ensure optimal conditions, repeatability and reproducibility.

## REQUIREMENTS

**Ambient temperature:** 15-30 °C

**Relative humidity:** less than 80% (non-condensing)

**Voltage:** 120 / 220V **Current:** 15 A **Frequency:** 50 or 60 Hz

**Argon (option):** 75 PSI 1-3 L/min for signal enhancing and remove air contribution in the plasma.

## DIMENSIONS AND WEIGHT:

**Overall dimensions:** 60 x 76 x 30 cm<sup>3</sup>; 24 x 30 x 12 inches<sup>3</sup>

**Weight:** 96 kg; 212lb

## ACCESSORIES AND OPTIONS:

- Analytical results processing software
- OPC-server compliant data communication (optional)
- Oil and liquid sampling chamber (optional)
- Beacon light (optional)
- Sample view through camera (optional)
- Remote control and security box (optional)
- Air purification system for air cooling (optional)
- Air conditioning (optional)



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