# MISSION: CORIOSITY

*Light speed analysis*

ELEMISSION LIBS TECHNOLOGY
WINNER of Pittcon 2017 Silver Excellence Award
ELEMISSION LIBS TECHNOLOGY

## MISSION: CORIOSITY

MISSION: CORIOSITY is the most advanced benchtop analyzer currently on the market for core sample imaging and analysis. The unique platform of MISSION: CORIOSITY allows it to fulfill the most demanding customer needs; repeatability, reproducibility, robustness, precision, accuracy, and sensitivity, all at unmatched speeds. It enables direct imaging of core samples down to a resolution of 50 µm. For higher throughput, resolution can be lowered to 100 µm to accelerate the scanning speed. This innovative instrument allows for simultaneous multi-elemental imaging and study for routine analysis, as well as for more demanding analytical developments.


## ADVANTAGES OF LIBS

Laser-Induced Breakdown (Atomic Emission) Spectrometry (LIBS) analysis is, by far, the fastest technology with 50 µm spatial resolution currently on the market. The reasons are many:

- **Surgical**: Resolution between 50 to 100 µm can be achieved on a routine basis
- **Versatility**: Analysis of any metal and any non-conducting material in many shapes and forms
- **Adaptability**: Accommodate sample roughness up to 4 mm
- **Speed**: Real time analysis at 40 sec/cm$^2$ at highest resolution
- **Range**: From trace (sub-ppm) to percent concentration levels
- **Accuracy**: Certified type standards – accuracy nominally better than 1% relative
- **Simplicity**: No sample preparation
- **Savings**: Rapid Return on Investment (ROI) and low operating costs

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## APPLICATIONS

- Metallic alloys
- Metalloids
- Non-conducting material
- Core sample imaging for mines sorting
- Biological sample imaging
- **And many mores … ask us!**

## ELEMENTAL IMAGER

**Scanning:** can scan area of more than 40 x 40 $mm^2$
**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

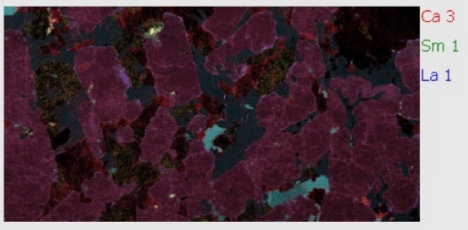
**Ambient temperature:** 15-30 °C
**Relative humidity:** less than 80% (non-condensing)
**Voltage:** 120 / 220V **Current:** 15 A **Frequency:** 50 or 60 Hz
**Argon (option):** 75 PSI 1-3 L/min for signal enhancing and remove air contribution in the plasma.

## DIMENSIONS AND WEIGHT:

**Overall dimensions:** 112x64x38 $cm^3$; 44x25x15 $inch^3$
**Weight:** 80 kg; 176 lb

## ACCESSORIES AND OPTIONS:

- Analytical results processing software
- Imaging software (ELEDIT)
- Integrated NIST emission lines database
- Sample view through camera (optional)

| | LIBS IMAGER CORIOSITY (1 000 Hz) |
|---|---|
| SELECTIVITY | Excellent |
| SENSITIVITY | Excellent |
| SPACIAL RESOLUTION (µm²/pixel) | 50 |
| SPECTRAL RANGE (nm) | 220-800 |
| SCAN RATES | High resolution (40 sec/$cm^2$)<br>Low resolution (10 sec/$cm^2$) |
| IMAGING |  |

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