



ELEMISSION

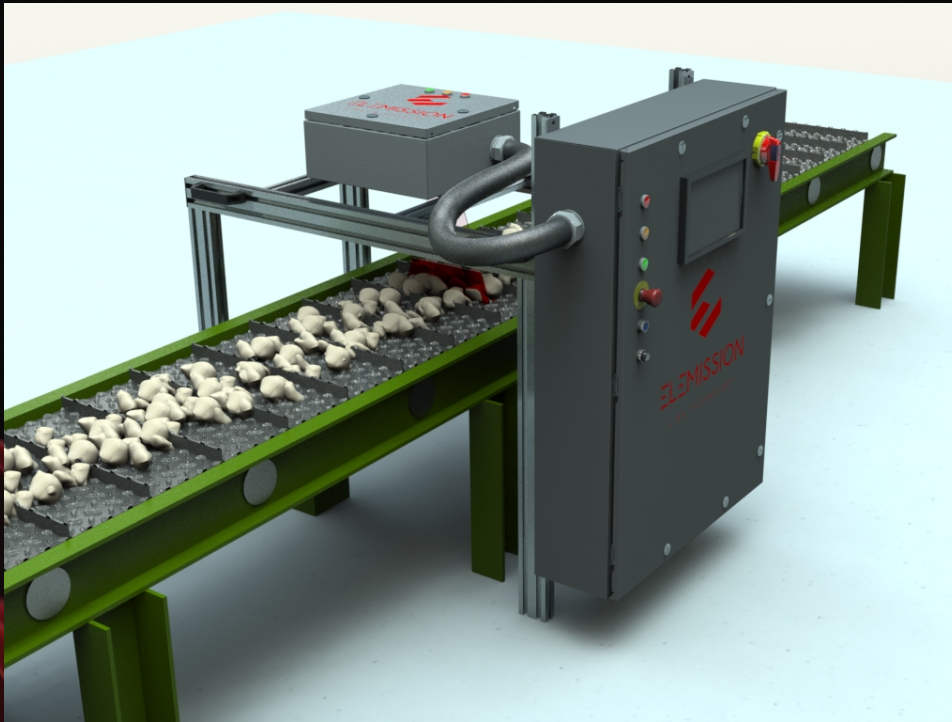
LIBS TECHNOLOGY

# MISSION: BREAKDOWN

*Light speed analysis*

## MISSION: BREAKDOWN

The EMISSION MISSION: BREAKDOWN product line combines several advanced technologies for high throughput process analytical chemistry. MISSION: BREAKDOWN upholds to the highest market standards for accuracy, performance, throughput and speed of analysis. Our product line enables real-time elemental analysis through Laser-Induced Breakdown Spectrometry (LIBS) for recycling, mining and soil analysis purposes.



## ADVANTAGES OF LIBS

LIBS analysis is, by far, the fastest technology currently on the market to analyze chemical composition in real-time on a conveyor belt. The reasons are many:

- **Versatility:** Analysis of any metal or non-conducting material in different shapes and forms
- **Adaptability:** can scan a conveyor belt cross-section up to 500 mm
- **Speed:** Real time analysis at unmatched pace: **100 objects per second**
- **Range:** From trace (sub-ppm) to percent concentration levels
- **Accuracy:** better than 1% relative or exceed 99% correctly classified
- **Simplicity:** No sample preparation, dries and cleans, with an ability to analyse material with paint, dirt, oxide, water, etc.
- **Savings:** Rapid Return on Investment (ROI) and low operating costs



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## APPLICATIONS

- Sorting metallic scrap
- Sorting high grade to lower grade ore
- Direct soil analysis
- Elemental process analysis
- Feed/tailing compositional control
- **And many mores ... ask us!**

## CONVEYOR BASED PROCESS ANALYZER

**Scanning:** Scanning width and number of analysis per scan are fully controllable through Programmable logic controller (PLC).

**Acquisition and signal processing speed:** 100 Hz

**Provides XYZ position and analysis:** up to 100 objects per second

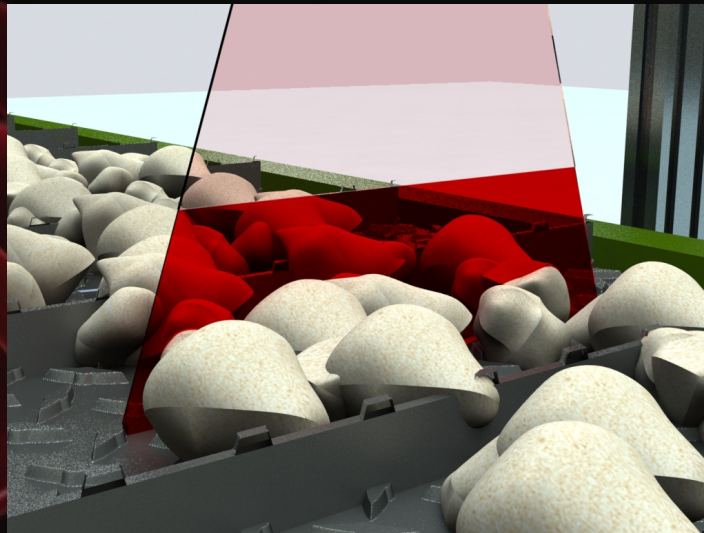
**Scanning width:** up to 500 mm

**Standoff distance:** up to 600 mm

**Depth-of-field:** The highest depth-of-field on the market with 120 mm @ 100 Hz.

**Automation capabilities:** OPC-server compliant through an embedded PLC for 24 h/d, 365 d/y unattended operation.

**Roughed calibration:** Calibration that requires minimal standardization for drift correction.



## ELECTRONICS

**Spectrometer control:** Microprocessor based system with PLC that complies with OPC-server.

**Programmable scan:**  $\pm 20^\circ$  optical.

**Wireless control:** Optional wireless control option with Android OS compatible smartphones/tablets.

**Enclosure:** Hermetic NEMA 4 dust and water-proof enclosure



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## REQUIREMENTS

**Ambient temperature:** 10-45° C (50-113° F)

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

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

**Compress air:** >75 PSI (MAX 120 PSI) @ 35CFM instrumental compress air exempt of 5 µm particle, oil and water. Optional compress air purifier available.

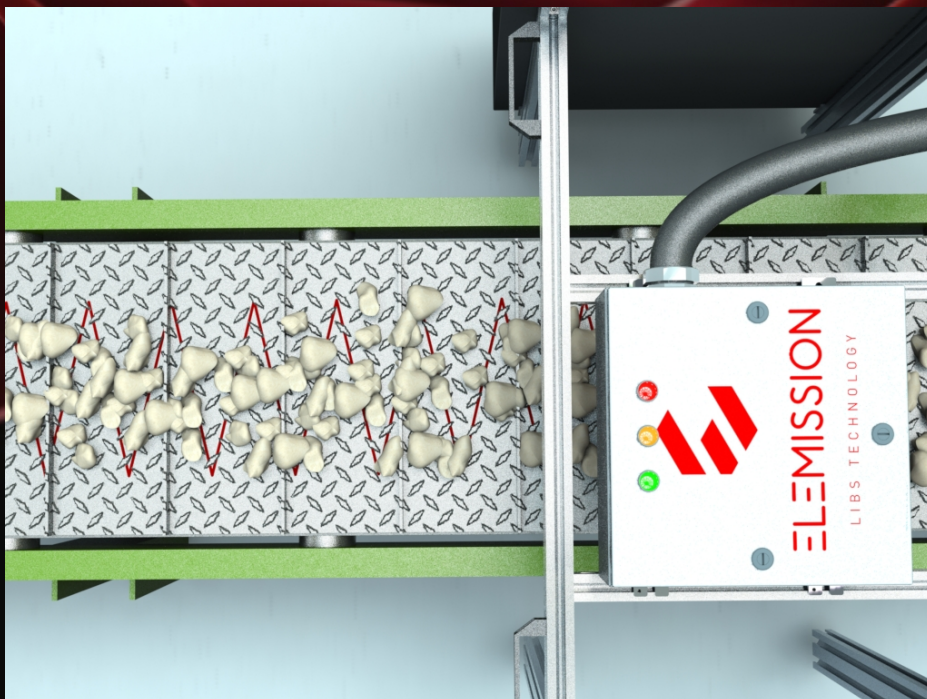
## DIMENSIONS AND WEIGHT

**Overall dimensions:** 91 x 76 x 30 cm<sup>3</sup>; 36 x 30 x 12 inches<sup>3</sup>

**Weight:** 109 kg; 240 lb

## ACCESSORIES AND OPTIONS:

- Beacon light
- OPC-server compliant data communication
- Analytical results processing software
- Intelliscan – for location of moving objects (optional)
- Remote control and security box (optional)
- Air purification system for air cooling (optional)
- Air conditioning (optional)



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