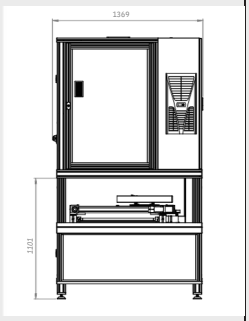
Complete
Instrumentation Solutions

CORE

Specifications & Technical Description

TECHNICAL DESCRIPTION

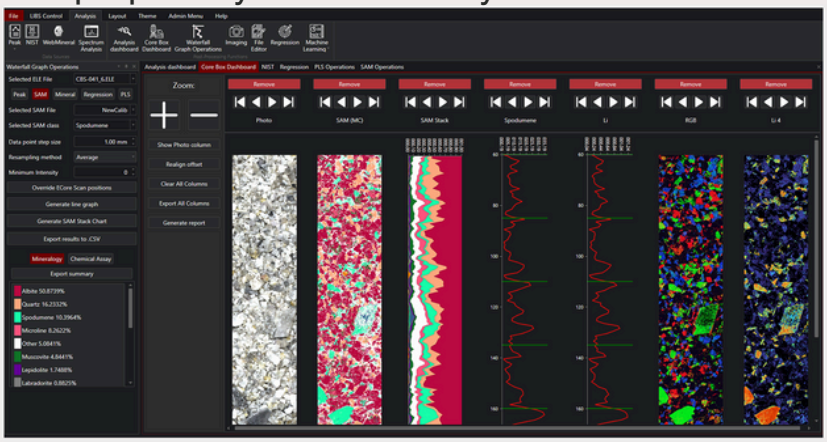


SIZE AND WEIGHT	
EXTERNAL DIMENSION (L x W x H)	4250 mm x 1400 mm X 2400 mm
WEIGHT	600 kg
DESCRIPTION	
CLASS 1 LIBS INSTRUMENT	- Class 1 laser enclosure with safety interlocks and emergency stop - Controlling safety relay - Laser key - Manuel reset - ANZI Z136.1 compliant - Laser safety standard - CSA/UL electrical standard compliant
ANALYSIS CONDITIONS	
SPATIAL RESOLUTION	Factory set ~ 50 micrometers
ACQUISITION RATE	1300 measurements per second (1300 Hz)
SPECTRAL RANGE	220 nm to 930 nm
MAXIMUM SAMPLE DIMENSION	1500 mm X 300 mm
MAXIMUM SAMPLE WEIGHT	35 kg
SURFACE SAMPLING	High speed all optical scanning of the surface 40 mm x 40 mm @ 1300 Hz
SCAN SPEED	1 cm2 at 50 micron resolution in less than 30 seconds
SCAN AXES	- Z-stage for focus adjustment - XY-Stage for drill core scanning
SAMPLING VISUALISATION	532 nm green laser pointer for scanning area preview up to 4 cm x 4 cm
PLASMA EMISSION SPECTRA	- Achromatic High transmission fiber optics for maximum plasma emission light collection

PLASMA EMISSION SPECTRA	- Independent light collection optics for LIBS plasma emission detection in air
LIBS CHAMBER	LIBS chamber equipped with an extraction capability for particle control equipped with HEPA filters
DETECTORS	
LIBS CHAMBER CAMERA	Imaging line camera to provide high resolution image of 57 micrometers per pixels
LASER	Laser wavelength, 1064 nm, 1 mJ, rep rate up to 1300 Hz, 7 nsec (FWHM) pulse width, air cooled laser
DATA ANALYSIS	
LIBS CONTROL SOFTWARE	- LIBS peak integration - LIBS spectra - Continuum and background signal subtraction - LIBS spectra curve fitting - LIBS statistics tracking during multiple laser shot data collection - LIBS signal statistics tracking during multiple laser shot data collection - 2D mapping of the selected elements - Quantitative analysis with linear and polynomial fitting calibration - Advanced calibration model using broadband - Sample library building for sample classification analysis, - Comparative LIBS spectra analysis, PLSR1, Auto PCA imaging that allows you to view the most probable image after an acquisition
SAM ALGORITHM	- Intuitive and easy to train supervised learning algorithm (SAM) - Auto-imaging (unsupervised learning) features including PCA visualisation of LIBS hyperspectral data - Ergonomic graphical user interface for supervised training of minerals and molecular features on a surface - Prediction of unknown images based on the previously built library based on SAM - And many features for exportation of the results as well as customization of mineral colors
ELECTRICAL REQUIREMENTS	
POWER OUTLET	208-240 / 30 A @ 50-60 Hz
COMPUTER	
	- High performance Intel i7 with Windows 10 Pro - 32 GB RAM, 5 TB SSD (1 TB M.2 and 4 TB SATA) - 24” LCD Monitor, keyboard, and mouse ** Subject to changes according to model*
ENVIRONMENTAL	
DUST MANAGEMENT	Automated HEPA vacuum
OPERATING AMBIANT TEMPERATURE	Normal laboratory conditions 15 TO 28 °C

Data Analysis

Our powerful proprietarysoftwareiseasytouse and informative.



Report Generation

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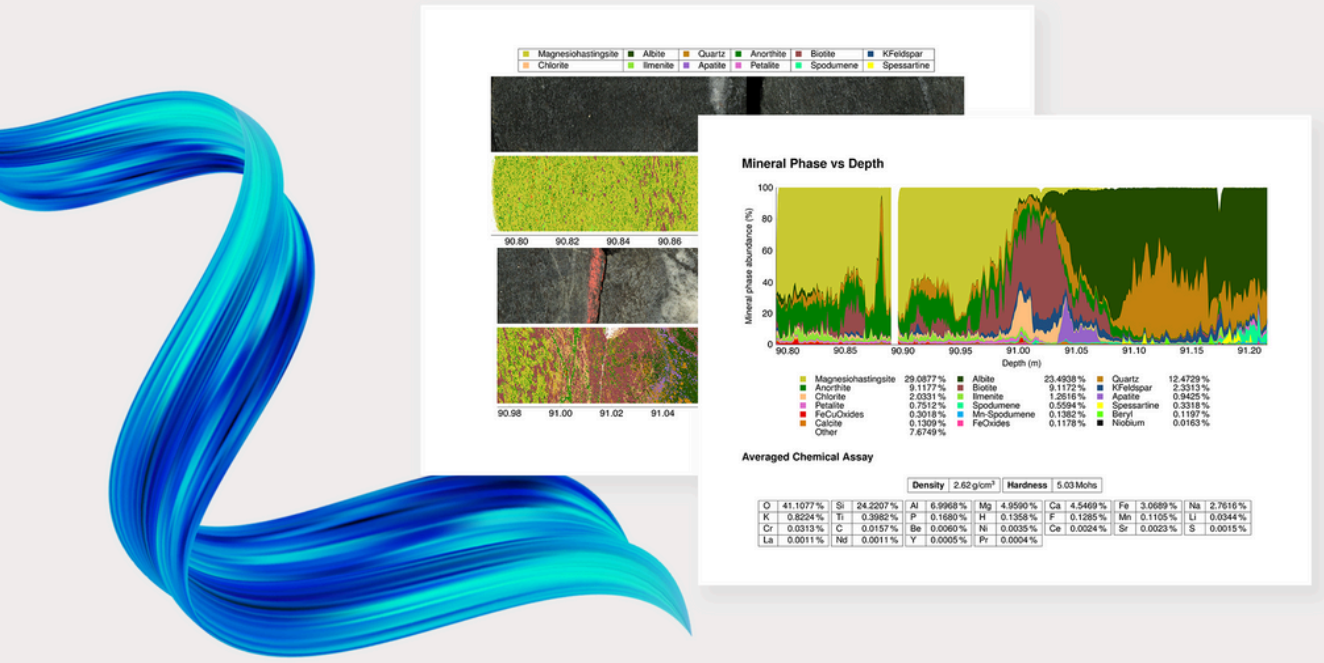

ELEMISSION

LIBS TECHNOLOGY

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