Mineral LIBS

- Inline multi-element-analysis
- Volume flow control
- Fast. Precise. Robust.

- Crude materials
- Industrial products
- Commodities

Key benefits *Mineral* LIBS

- **Fast. (results <1s, 80 measurement points/s)**
- **Precise. (quantitative <0,1wt%, typical error <5% rel. @ 2m/s**
- **Robust. (IP65 for harsh environments, sealed-in clean room)**
- **Purge air management for dust protection of the optics**
- **All elements including lightweight**
- **Non-contact-measuring plus auto-focus**
- **Gauging continuously and in motion**
- **Low maintenance and service costs**
- **Fully integrated real time analysis**
- **Consistent quality „Made In Germany"**
- **SEC-Viewer / SEC-Analyser**
- **Efficient and cost saving flotation control**
- **No harmful x-rays**

blast furnace equiped with *Mineral* LIBS

Applications

- Identification of different material classes by multi-element classification,
  e.g. identification of moving bulk material on feeding conveyors of **blast furnaces** (lump ore, pellets, sinter, scrap iron, slag, coal, lime rock, dolomite, gravel, ilmenite, olivine, bauxite)

- Identification of high valuable subclasses by quantification of the content of defined elements
  e.g. online monitoring of the element content for subsequent selective **logistics in mining**
  (Ca in lime rock, Fe, Al, Si in lump ore, Al in bauxite, C, ash in lignite and hard coal, Al / K / Fe in silica sand)

- Process control by quantification of the content of defined elements,
  e.g. quality rating of coal on feeding conveyors in **power plants**
  e.g. quality rating in the mineral recoditioning and processing (content of fluorite, barite, Mg / As / Pb)
  e.g. quality evaluation of material flows in the manufacturing of ceramic products

Technical Specifications *Mineral* LIBS

Working Principle	Laser Induced Breakdown Spectroscopy (LIBS)
Laser Source	Class 4, wavelength: 1064 nm
Spectrometer	Spectral range: 230 - 930 nm, adaptable to the application
Analysis frequency	Evaluation rate (results/s): typically 1 result/s, depending on application
Dynamic Focusing	Measuring distance: 600 - 950 mm, Auto focus range: 350 mm, Tracking speed: 7.0 mm/ms
Environmental conditions	T: +5 °C to +40 °C, harsher exposure upon request
Electrical Supply	U: 110/ 230 VAC; P: 1.0 kW
Dimensions	Height x Width x Length: 735 x 300 x 1810 mm, Weight 150 kg

MineralLIBS 1708