

NO GAMMA, NEUTRON, X-RAY RADIATION

LASER ONLINE ELEMENTAL ANALYZERS

LYNCIS online analyzers provide continuous and accurate elemental analysis of material flows directly on the belt or in pipes.

Understanding the chemical composition of materials prior to processing is a decisive factor in achieving stable technological process and higher productivity with reduced operational costs. This is especially true in the mining industry, where companies are struggling to stay competitive in the industry with volatile commodity prices, declining ore grades and increasing variability in raw materials.

REAL TIME AND SAFE ANALYSIS FOR TIMELY AND EFFICIENT DECISIONS:

- Grade sorting and stockpiling
- Ore blending
- Dosage of fluxes and reagents
- Sintering, smelting, flotation, leaching
- Final product quality control



PROMPT PROCESS CONTROL

PROVEN SOLUTION FOR INDUSTRIAL APPLICATIONS

LYNCIS ONLINE ELEMENTAL ANALYZERS bring together experience in the industrial installations and advance analytics to enable timely and accurate decision making at every stage of the process.

BENEFITS OF PROMPT PROCESS CONTROL IN MINERAL PROCESSING

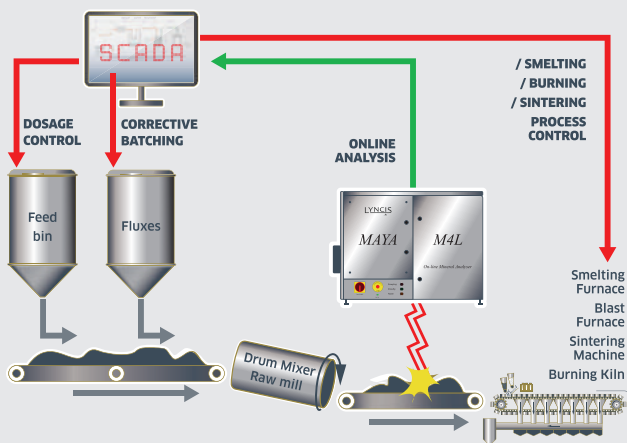
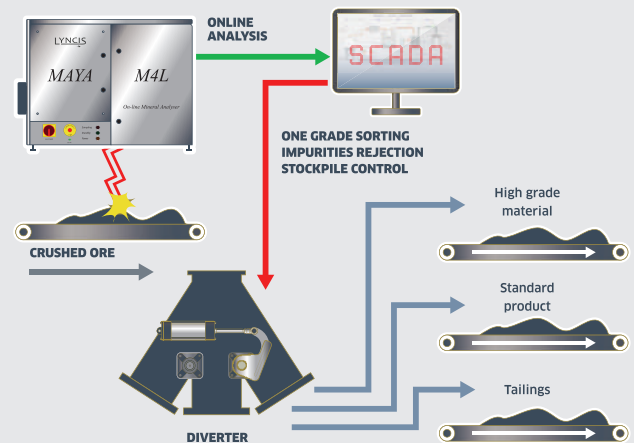
RAW MATERIAL PREPARATION

POSSIBLE INSTALLATIONS

- Grade sorting before processing
- Immediate rejection of impurities
- Optimal blending

BENEFITS

- Stable feed for the downstream process
- Reduced production costs due to removed waste ore



STABLE TECHNOLOGICAL PROCESS

POSSIBLE INSTALLATIONS

- Timely optimal dosage of fluxes and reagents
- Real-time adjustment of process parameters

BENEFITS

- Savings in fuel / energy / reagent consumption
- Reduced operational costs
- Higher productivity
- Optimized and predictable plant operation

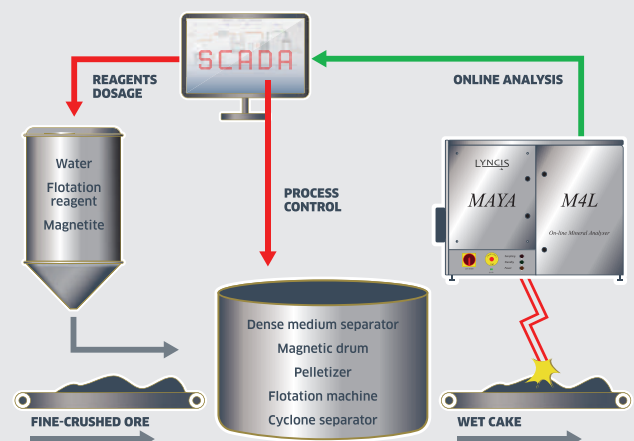
FINAL PRODUCT QUALITY CONTROL

POSSIBLE INSTALLATIONS

- Final product quality control

BENEFITS

- High and stable final product quality
- Increased sales price for higher grade products
- Strong conformity with the contract specification
- Reduced penalties



MAYA INDUSTRIAL ANALYZERS FOR MANY APPLICATIONS

- Iron and steel production
- Non-ferrous metals
- Cement
- Refractories
- Industrial minerals - quartz, clays, nepheline etc
- Fertilizers - phosphates, potash, NPK
- Coal - metallurgical and thermal
- Bauxites and alumina
- Rare earth elements

ONLINE QUALITY CONTROL FROM EXPLORATION TO FINAL PRODUCT

EXPLORATION

- Drill core / dust analysis



MINING

- Ore grade sorting
- Stockpile formation
- Rejection of impurities



RAW MATERIAL PREPARATION

- Optimal ore blending
- Stockpile formation



FLOTATION

HEAVY MEDIA SEPARATION

LEACHING

- Water and reagents dosage
- Slurry and liquor analysis
- Cake quality control

SINTERING

SMELTING

- Dosage of fluxes
- Reduce fuel, energy consumption

FINAL PRODUCT

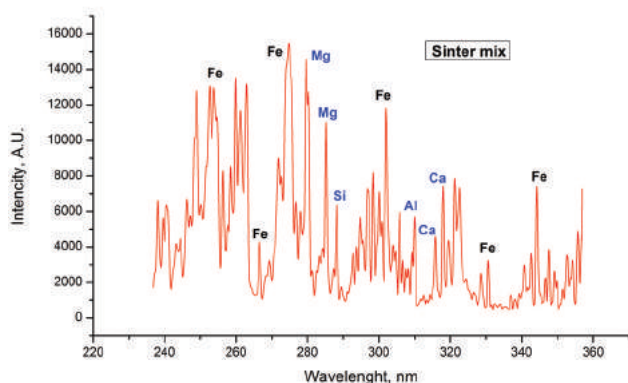
- Quality control
- Grade sorting

INDUSTRIAL MAYA ANALYZERS – PROVEN AND SAFE SOLUTION FOR ONLINE ANALYSIS



- Proven 24/7 operations in harsh industrial environment at mineral processing plants
- Personnel and operational safety
- Long-term stable accurate calibration
- Easy maintenance
- No sample preparation
- Automatic operation and easy SCADA integration
- Low cost of ownership
- Operating temperature range: -20°C to +50°C
- Protection from dust, corrosion, vibration
- Weight ≈ 450 kg
- Dimensions ≈ 1500mm x 900mm x 1300 mm

- **No Gamma, Neutron, X-ray radiation**
- Simultaneous online quantitative analysis of **all elements of interest**, including the light ones
- Analysis of derived parameters, such as moisture, basicity, ash, calorific value, volatiles, LSF etc.
- High sensitivity and low limits of detection
- Bulk and fine materials analysis
- Slurry and liquor analysis



LIBS analysis process: a laser beam is focused on the surface of the material directly on the belt with a high frequency, generating a plasma at that point. Then, the plasma quickly cools down and the excited ions return to the low energy state, emitting characteristic optical radiation. Based on the obtained spectra, the concentrations of all the necessary elements and compounds can be calculated simultaneously and directly, obtaining the results in a real-time mode.



LASER INDUCED BREAKDOWN SPECTROSCOPY (LIBS) IS THE SAFEST AND MOST UNIVERSAL METHOD OF ELEMENTAL ANALYSIS