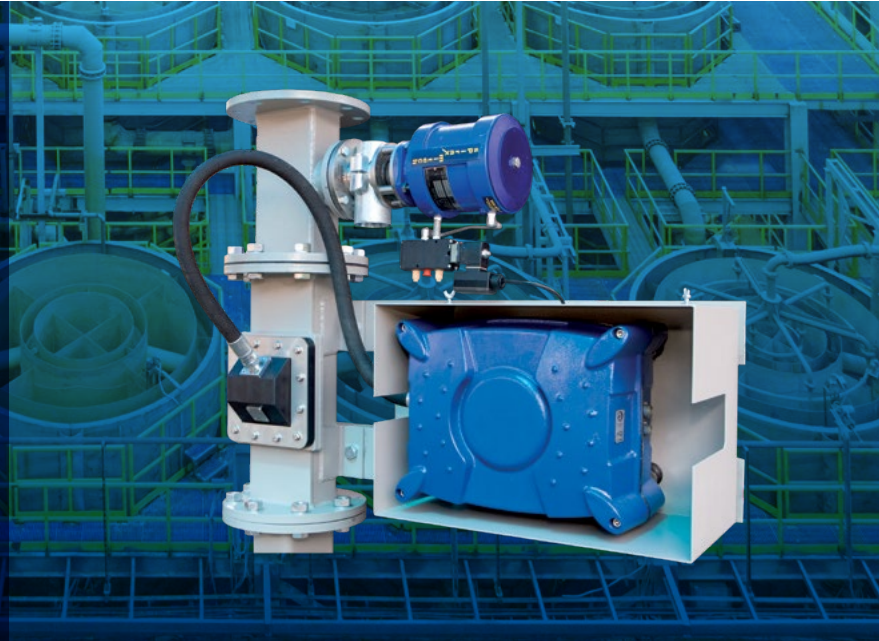# Draslovka

Blue Cube Slurry Analyzer

Process optimization starts with real-time measurements

The Blue Cube in-line slurry analyzer delivers more information, faster, and in a safer manner than traditional in-process analyzers.

IN-LINE MEASUREMENT

Small footprint, easy to integrate
No sample streams, sample pumps, multiplexers

UNMATCHED RANGE

Measure both light and heavy elements, minerals, particle size and % solids, all in one instrument

LOW MAINTENANCE

Mechanically simple – only two moving parts, no high-wear components

FAST RESPONSE

15-second updates to all parameters, simultaneously

INHERENTLY SAFE

No radioactive sources or high-intensity lasers

PROVEN
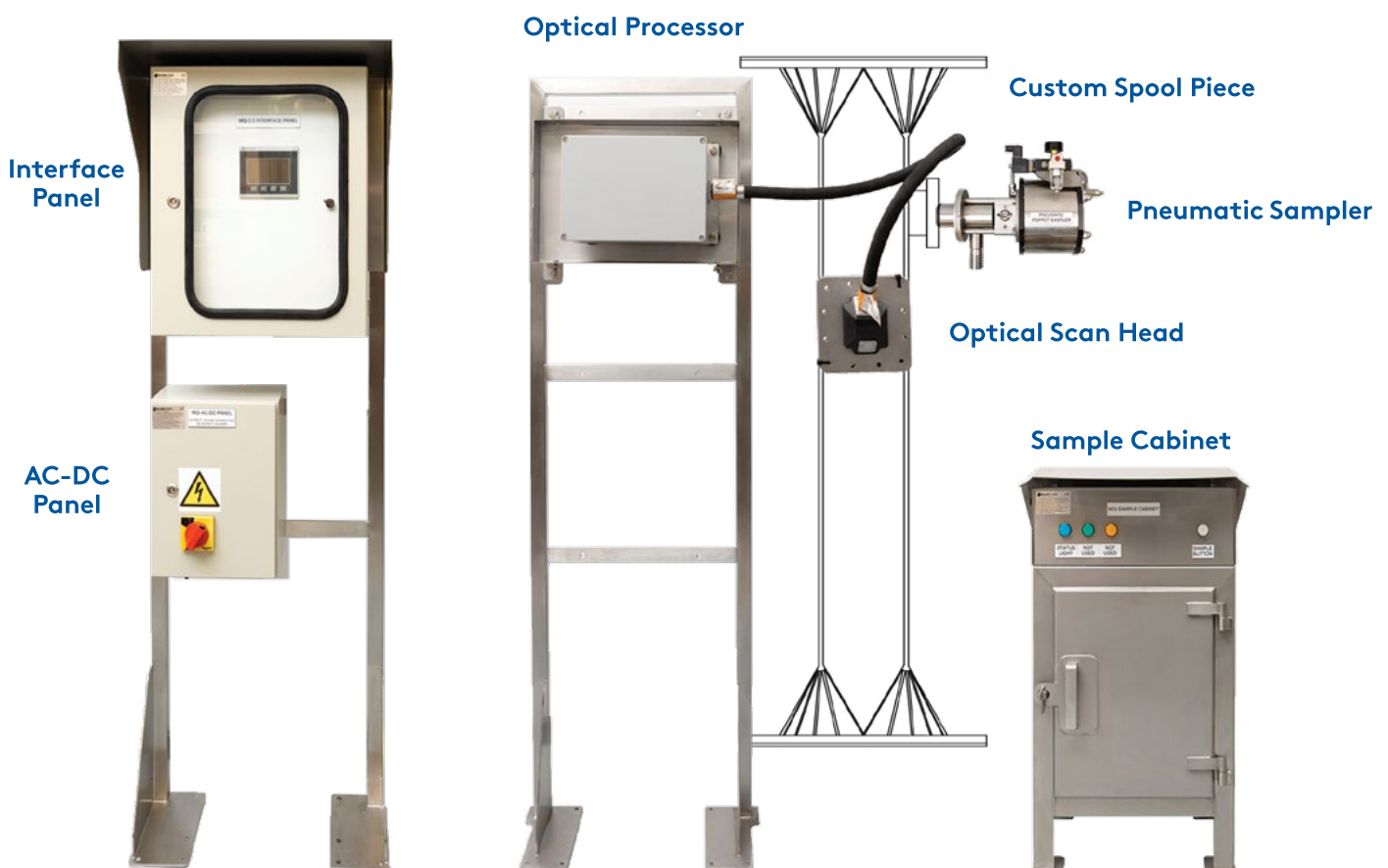
100+ analyzers deployed worldwide

Draslovka

Blue Cube is an in-line instrument that measures the composition of slurry streams in real-time. The analyzer continuously scans the contents of the process stream directly without removing it from the pipe, resulting in a measurement that is truly representative of the real process.

Blue Cube's diffuse reflectance spectroscopy (DRS) analytical technique uses a broad band of light from ultraviolet, through visible, and into near-infrared, together with state-of-the-art machine learning techniques, to determine grade and other process parameters based on the spectra reflected from particles in the slurry.

DRS covers a much broader range of electromagnetic frequencies than XRF-based analyzers, capturing more information at much shorter integration periods. This allows Blue Cube to measure the grade of both light and heavy elements, minerals, as well as other process parameters such as particle size. Our optical technology can be applied to any quantifiable property that affects the spectra in this broad range of light.

The powerful combination of in-line measurement and DRS allows Blue Cube to update all measured parameters simultaneously every 15 seconds.

By providing reliable, real-time insights, our analyzer enables faster, more informed decision-making to optimize product grade and recovery.

Optical Processor

Custom Spool Piece

Interface Panel

Pneumatic Sampler

Optical Scan Head

AC-DC Panel

Sample Cabinet

Draslovka

Au
Gold
Sulphides, S, Cu, Fe, As, Au, $CaCO_3$, Pb, Zn, Ni, % Solids, Particle Size (P80, -74um)

Cu
Copper
Total Cu, Acid Soluble Cu, Co, Mg, Ca, Fe, Si, Cu, S, SiO_2, MgO, Zn, Pb, % Solids, Insolubles

Ni
Nickel
Ni, Fe, MgO, As, S, SiO_2, Co, Cr_2O_3, Cu, Al2O3, Pentlandite, Pyrrhotite, Chalcopyrite, Troilite, Talc, Serpentine

Zn
Zinc
Zn, Pb, Cu, Fe, Cd, H_2SO_4, Mn, $CaCO_3$

Pt
Platinum
PGM (PGE), Cr_2O_3, SiO_2, % Solids, Particle Size

Cr
Chrome
Cr_2O_3, SiO_2, FeO

Fe
Iron
Fe, SiO_2, Al_2O_3, S, P, Mn, K_2O, Ba

Pb
Lead
Pb, Zn, Cu, Ag, As, % Solids, P150, Fe

Cg
Graphite
C, S, Particle Size, % Solids

Mn
Manganese
Mn, Cr_2O_3, SiO_2, FeO

P
Phosphate
P_2O_5, BPL, SiO_2, Al_2O_3, MgO, CaO, Particle Size

*
HM, U, Mg
ZrO_2, TiO_2, B_2O_3, SO_4, CaO, U_3O_8, Ilmenite, Rutile, Zircon, …

MEASURE

Measure various parameters such as mineral grade, elemental grade, particle size fraction, % solids.

In-line, continuously, every 15 seconds.

On pumped, upward-flowing process lines of any diameter greater than 25mm.

CONTROL

Rapid measurement updates enable effective process stabilisation through automatic process control.

Automatic manipulation of air addition, pulp levels and reagents are suggested for the control of grade and recovery in typical flotation circuits.
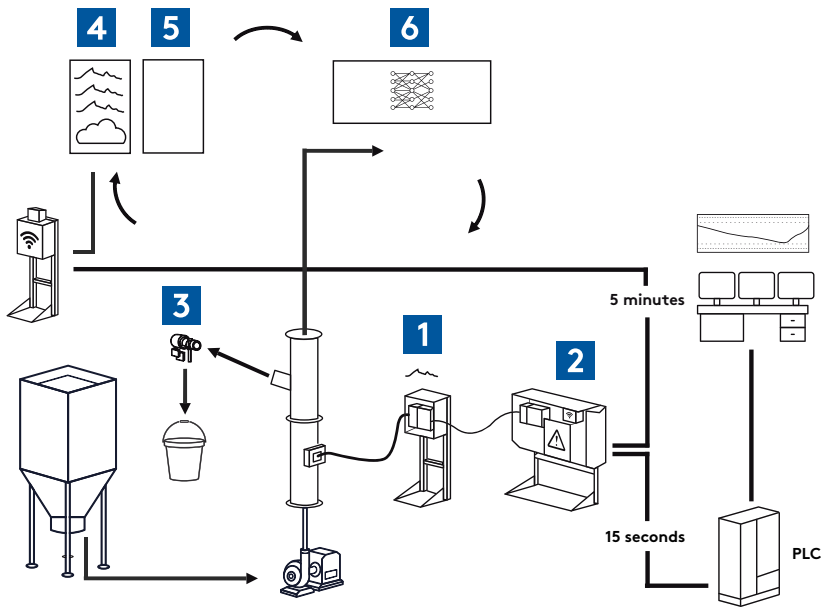
OPTIMIZE

With the availability of real-time data, the effect of process changes can be tracked without having to do full plant surveys.

Blue Cube can be used together with a mass flow indication to optimise recovery.

Product grade can be optimised, and the impurity content minimised to eliminate penalties.

ABOUT DRASLOVKA

- Our team has 200+ years of collective experience, with extensive metallurgical expertise.

- We are the largest producer of sodium cyanide in the world.

- We have presence in every continent and operate the largest distribution network in the Americas.

- We are the leading authority on cyanide production technology, with the most efficient production process in the world.

- Our technical services team are cyanide experts and ensure continual process improvements.

- We offer specialized expertise in process safety management through our product stewardship program.

- Our Innovation Centre is continuously developing breakthrough technologies to future-proof your mining operations.

1 Ultraviolet, visible, and near infrared light is directed through a sapphire window onto the slurry as it passes through the pipe and the light reflected by the slurry particles captured.

2 The reflected light is digitized and used together with a calibration model to extract spectral features of interest and provide 15-second updates to the measured parameters.

3 The analyzer monitors the process and automatically extracts one calibration sample per day when process conditions are appropriate using the integrated pneumatic sampler.

4 The spectra are captured while the calibration sample is extracted and are recorded and uploaded.

5 The laboratory assays of the calibration samples (emailed to Blue Cube weekly) are used together with the uploaded spectra to monitor performance and fine-tune the calibration model.

6 The refined calibration model is automatically downloaded to the instrument to ensure accuracy is maintained through drifts in process conditions and lithology. This process is repeated on an ongoing basis.

OUR LOCATIONS