

Blue Cube Dry Analyser

IN-LINE MEASUREMENT OF MINERAL GRADE IN DRY STREAMS

OVERVIEW

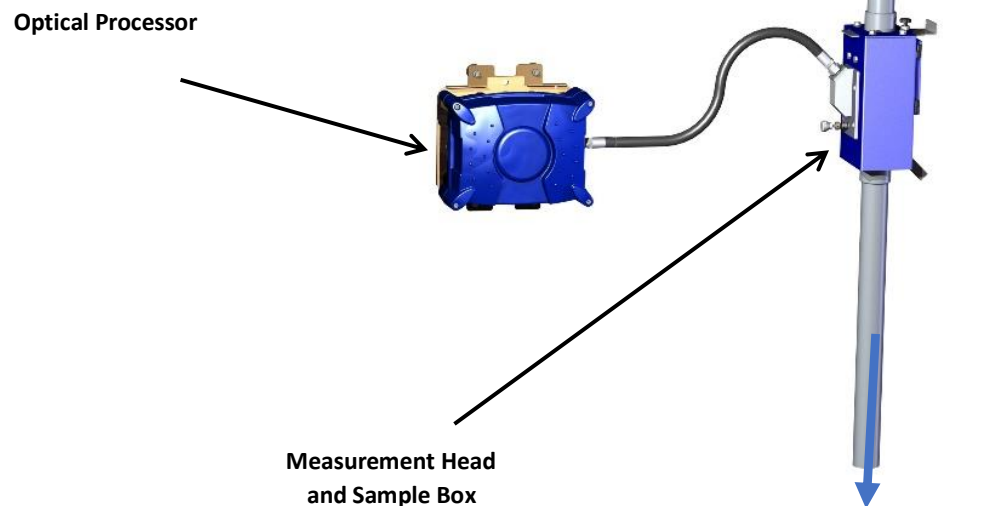
The Blue Cube MQi (Mineral Quantifier Inline) Dry Analyser is designed for fast, accurate and reliable in-line measurement of the elemental and mineral composition of plant feed, tailing and concentrates. The Blue Cube MQi Dry analyser is used for dry minerals such as mineral sands. This technology can measure ilmenite, rutile and zircon or Al_2O_3 containing minerals such as kyan, leucoxene and corundum measurement. Two variations of the technology uses optical spectroscopy and raman spectroscopy respectively. Optical spectroscopy is used to measure TiO_2 , Fe_2O_3 , Cr_2O_3 , $FeTiO_3$ and ZrO_2 .

The technology is inherently safe and contains no nuclear sources, X-ray devices, high intensity or high temperature devices and has a small footprint.

The Blue Cube MQi Dry Analyser will give a continuous signal (updated every 15 seconds) that can be used for process control.

Mineral and elemental grades are measured in-line and in real-time by the Blue Cube Dry analyser.

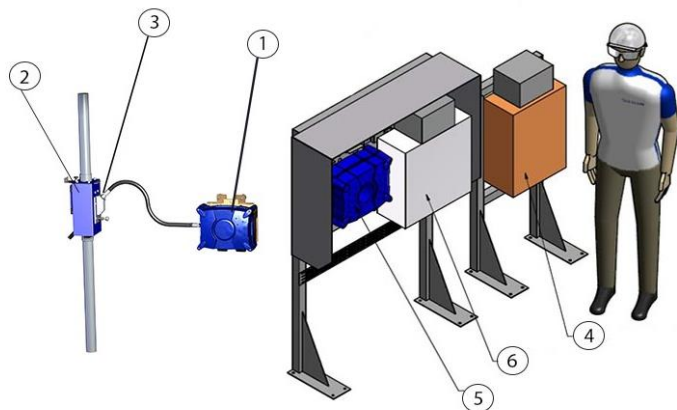
FLOW OF DRY MINERAL SANDS



BENEFITS

- In-Line and Real-Time Data
- Improved Recovery and Grade Control through closed loop process control with 15 second update of measurements
- Inherently Safe
- Low Capital and Operating Costs

SINGLE STREAM

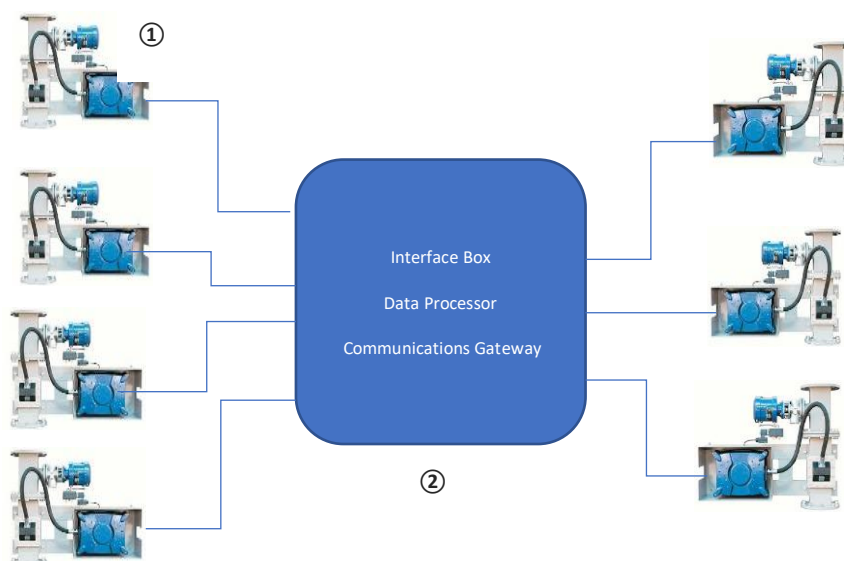


COMPONENTS

The main components of the Blue Cube Dry Analyser consist of:

- ① **Optical Processor** containing the spectrometer
- ② **Sample Box** which facilitates a choke fed sampling presentation sample
- ③ **Scan Head** with a calibration sampling facility
- ④ **Communications Gateway** for remote access
- ⑤ **Data Processor** containing the calibration sets
- ⑥ **Interface Box** which is used to connect the Blue Cube outputs to the plant

MULTI-STREAM



COMPONENTS

The main components of the Blue Cube Multi-Stream Dry Analyser consist of:

- ① **Optical processor, scan head and poppet sampler**
- ② **Combined central with control box**

MINERAL & ELEMENTAL SUITE MEASUREMENT

Mineral & Element suites are measured in different types of minerals processing plants for dry applications:

Mineral Sands

1. Optical Spectroscopy

- TiO_2 (Rutile)
- Fe_2O_3
- FeTiO_3 (Ilmenite)
- Cr_2O_3
- ZrO_2 (Zircon)
- Cr_2O_3

2. Raman (Laser)

- Al_2O_3 containing
 - Kyan
 - Leucocene
 - Corundum

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