

BOXA-e On-Stream X-Ray Fluorescence Analyzer

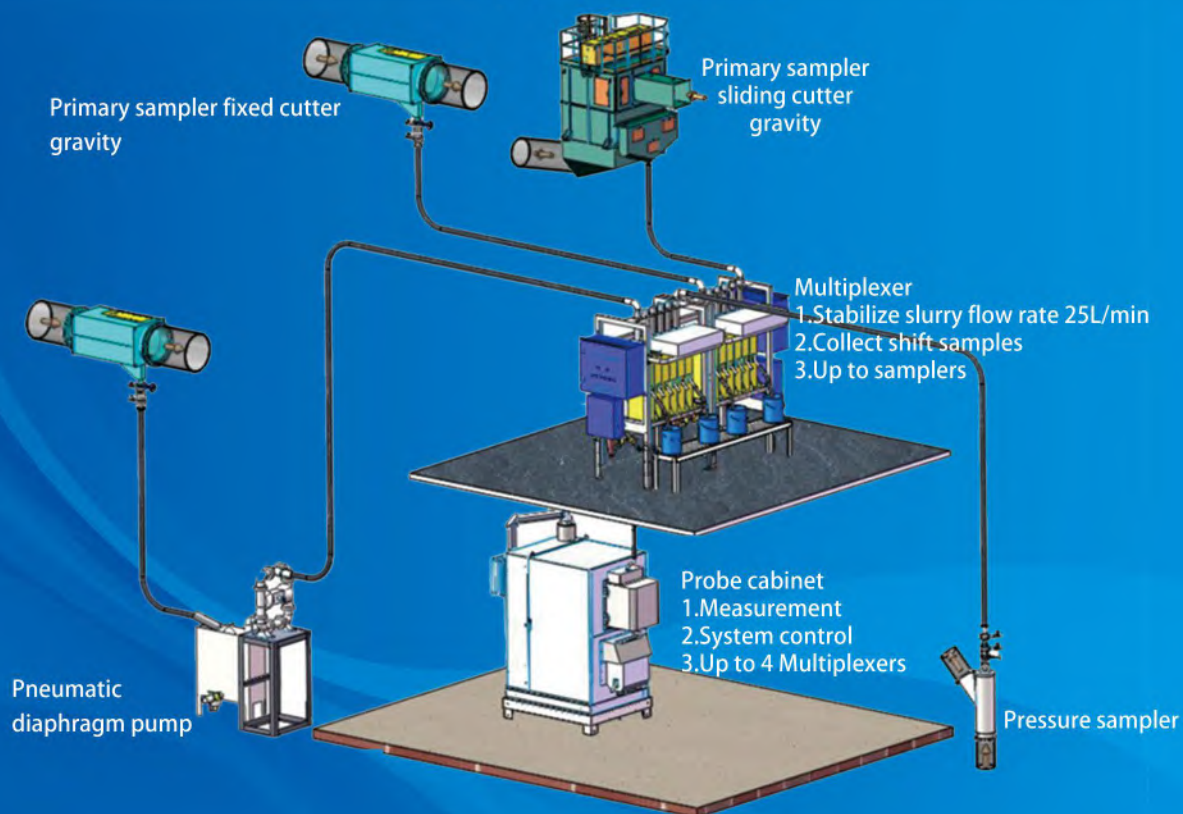
BOXA series X-ray fluorescence analyzer is a real-time analytical instrument for measuring the grade of metal elements in slurry, which has been popularized and applied more than 40 sets in domestic and foreign mining enterprises. It can provide fast and accurate analysis results for the concentrator to control and adjust the beneficiation process.

Value embodiment

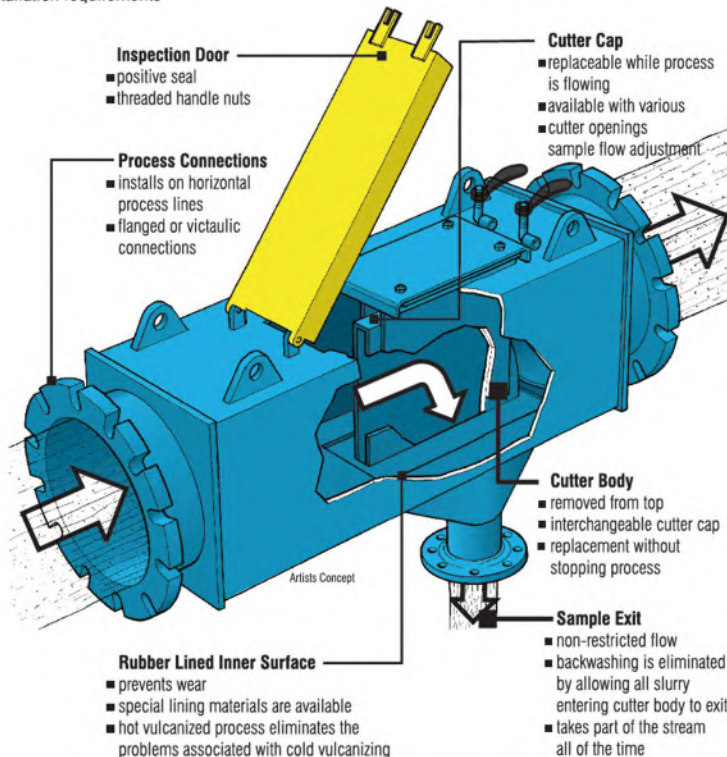
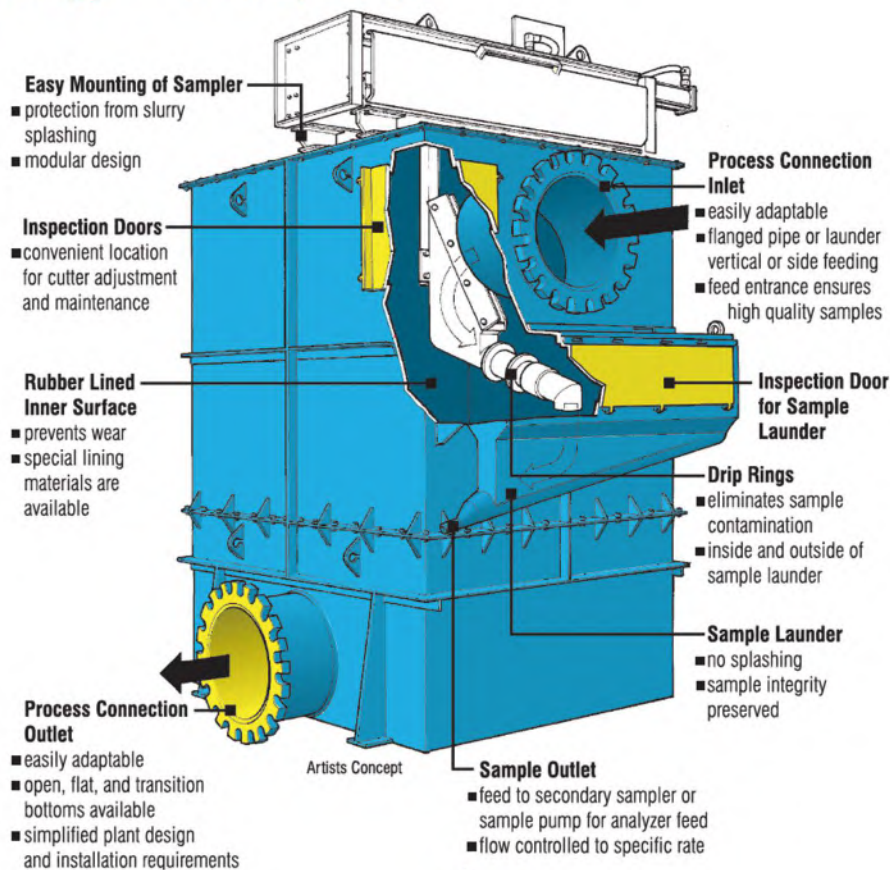
1. Stabilize concentrate index and improve economic benefit.
2. Increase the recovery rate by 0.5-2%.
3. Improve separation quality, reduce impurities in concentrate.
4. Save reagent consumption and reduce beneficiation cost.
5. Get rid of workers' experience, improve management quality.
6. For enterprises with complex ore properties and multiple ore belts, it can participate in guiding ore blending.
7. The sampling is representative and can be used for metal balance calculation.

Technical advantages

1. Combine progressiveness core technology and innovative application technology, the performance indicators are internationally leading.
2. The production process shall be carried out according to the user specified standards or national standards, and the product quality is excellent.
3. The engineering design is rigorous, and the optimal scheme is formulated for the concentrator based on the characteristics of process and equipment.
4. The technicians shall provide on-site guidance to ensure the installation quality.
5. Diversified training mechanism to help users quickly master operation and maintenance.
6. Fixed technicians provide after-sales service regularly.
7. The unique remote diagnosis system transforms fault drive into prevention drive.
8. A professional and stable technical team provides professional and stable high-quality solutions and services.



Core technology—Primary sample



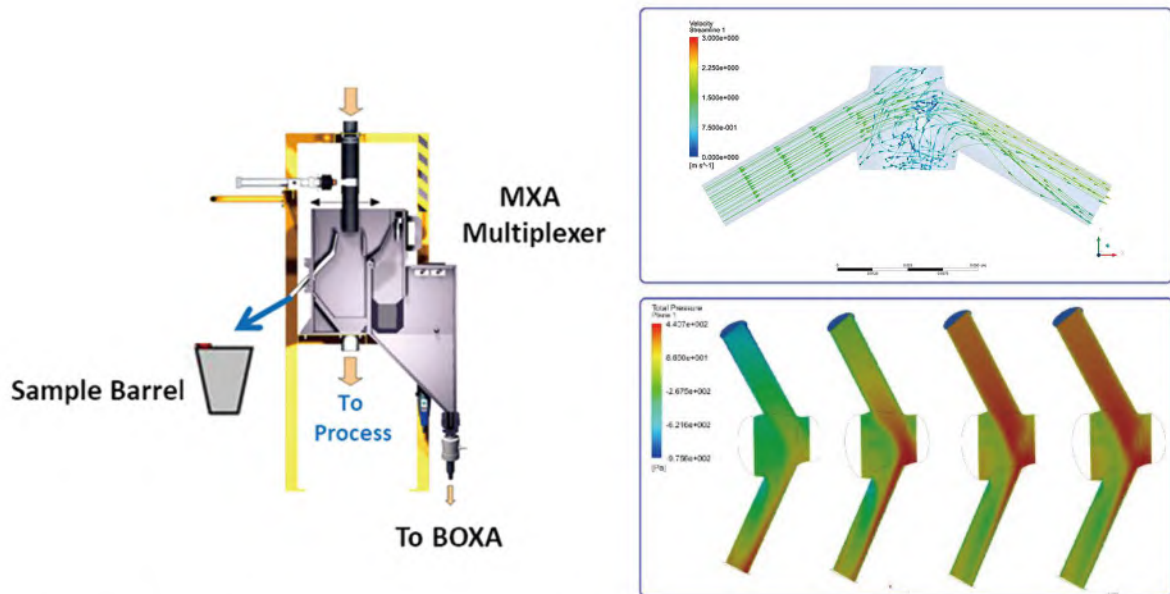
Three principles of sampler:

Cut a fixed thickness "one piece" slurry sample from the process flow

The cut "one piece" slurry sample can flow out completely

Each particle has an equal probability of being taken

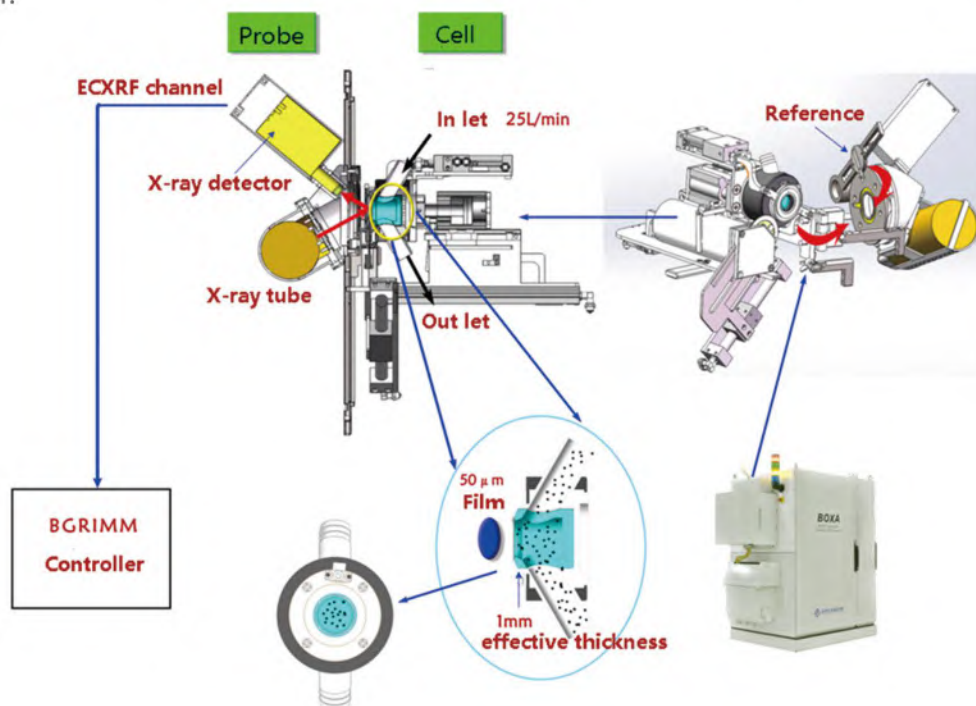
Core technology—Multiplex division technology



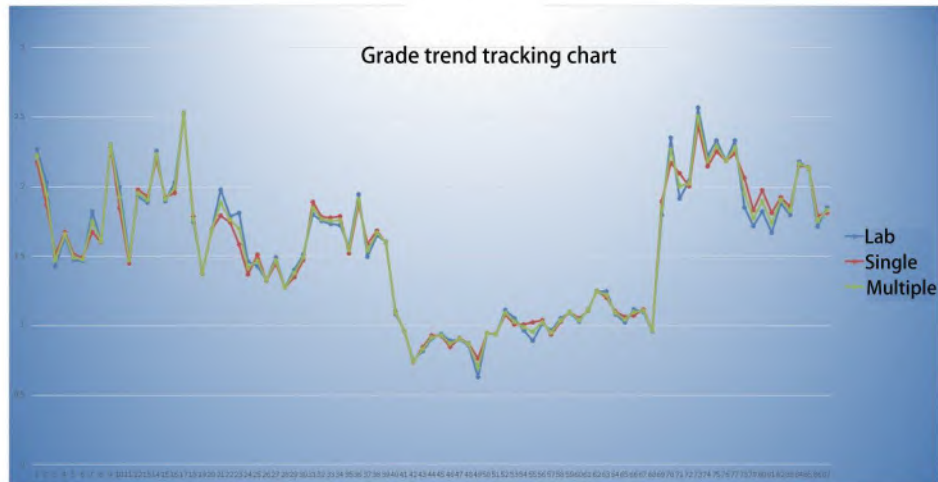
The slurry flow of the MXA multiplexer of the BOXA analyzer is stabilized at 25L/min after secondary reduction, ensuring that the pressure distribution of the slurry at the measuring cell is uniform, and the probability of mineral particles of different particle sizes passing through the measuring cell is consistent, thus ensuring the measurement accuracy from the source.

Core technology—Analysis and detection

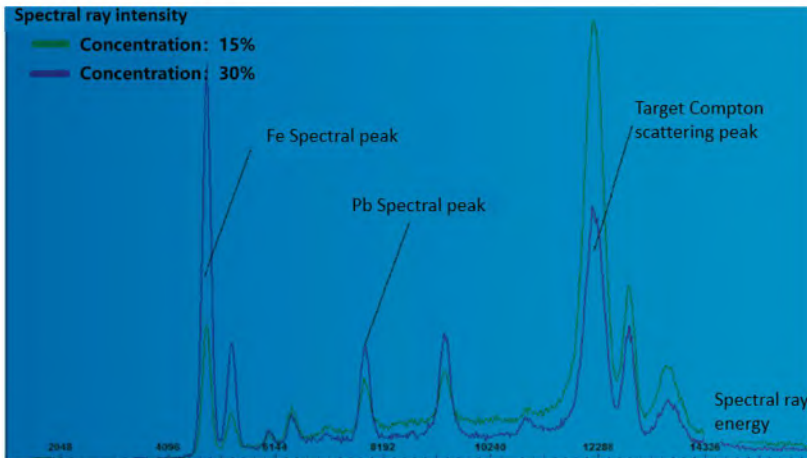
1. BOXA-e is an energy dispersion analyzer in BOXA product series, based on energy dispersive X-ray fluorescence analysis method to detect metal elements in slurry through energy channel which includes built-in SDD semiconductor detector.



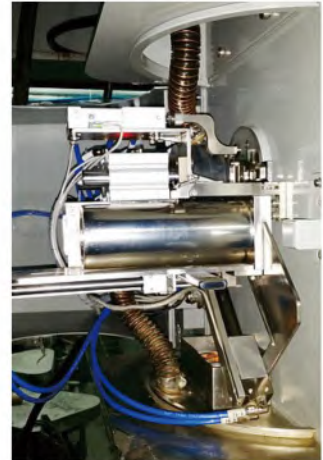
- 2. Multi model adaptive technology to overcome changes in ore properties.



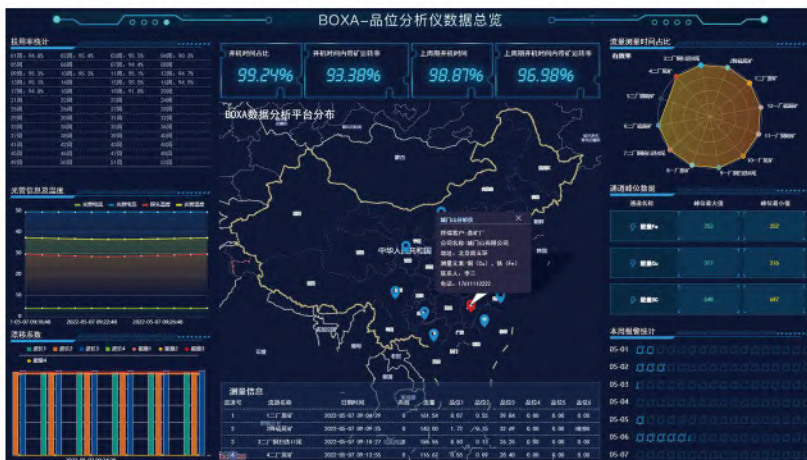
- 3. Intelligently adjust the excitation intensity to realize the drift of the whole system.
- 4. Scattering compensation technology to overcome the interference of concentration fluctuation.



- 5. Automatic film replacement technology: The slurry isolation film can be automatically replaced in two ways, namely, timing and frequency.



- 6. Remote diagnosis intelligent operation and maintenance technology

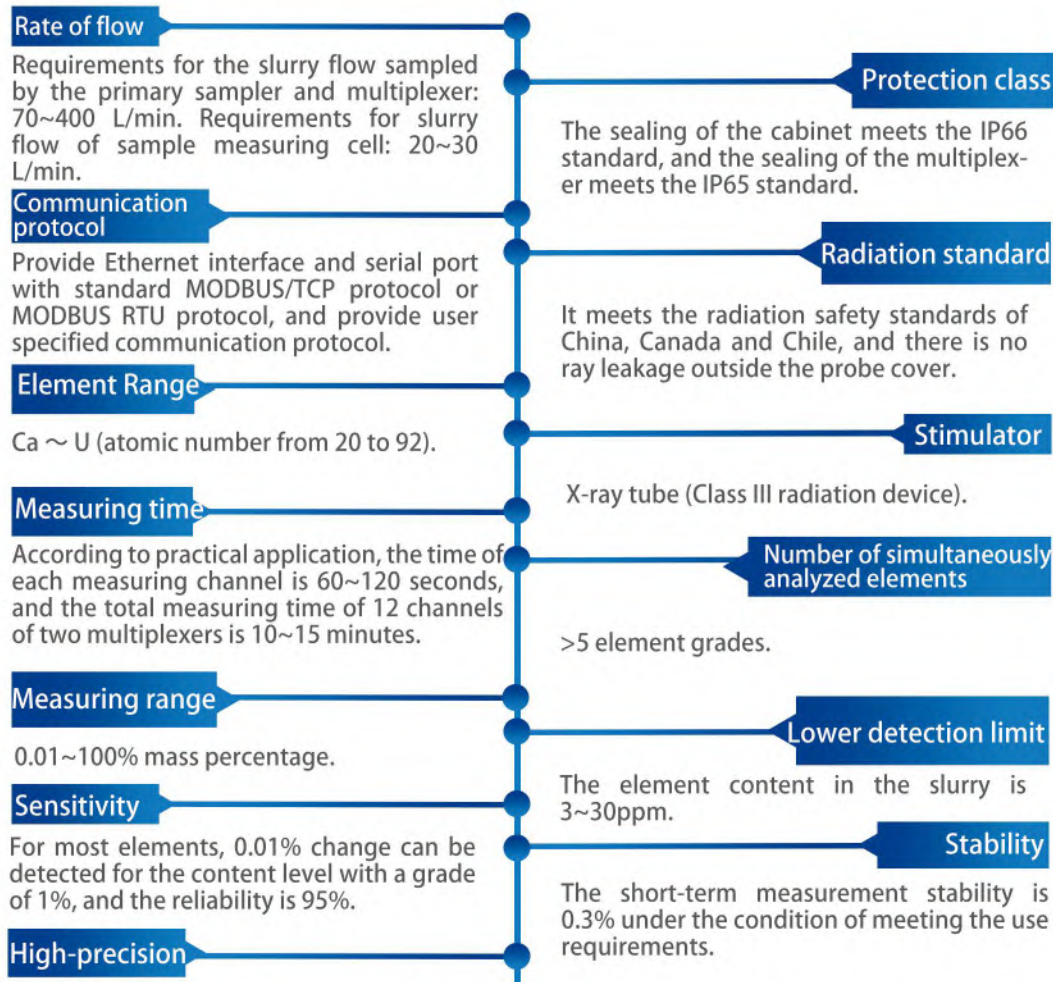


It can realize remote monitoring and fault diagnosis of networked analyzers, and regularly issue analysis and detection reports.

The historical data can be browsed locally through mobile phone APP, and the diagnosis results of Beijing Data Center can be synchronized.

The technicians of BGRIMM and the mining enterprises master the operating status of the equipment at the first time, and change the maintenance mode from fault driven to preventive driven.

Performance index



Measurement accuracy is a function of sample parameters, such as mineral composition, ore properties and particle size. When the content of a single slurry sample is significantly higher than the minimum detection limit of the analyzer, the following relative standard deviation can be reached under normal conditions:
Low content: 3-6%, high content: 1-4%.

Design data

Dimension and weight

Cabinet: 1600(L)×1300(W)×1870(H)mm, 300Kg
Multiplexer (one): 1600(L)×1200(W)×1800(H)mm, 200Kg

Power supply

Single phase AC 220V+10%, -15% 15A 50Hz or customized, 6kVA UPS is recommended for power supply.

Temperature

Operating ambient temperature: +5~45 °C in zero altitude area. Storage ambient temperature: -25~+60 °C.

Flushing water

The flushing water is used to flush the multiplexer and calibration sampler.
Water quality requirements: no particles, no gravel, no corrosive water is recommended.
Pressure requirement: 0.2~0.5MPa.
Average water consumption: 30L/min.

Instrument air supply

The instrument compressed air is used to supply air to the cylinders of the multiplexer, calibration sampler and probe.
Air supply requirements: dust particles shall not be more than 3um after purification, oil mist content shall be less than 8ppm, and there shall be no corrosive, toxic, flammable and explosive gases.
Pressure requirement: 0.5~0.8MPa.
Average gas consumption: 16NL/min.