

BPSM On-Stream Particle Size Analyzer

The BPSM On-Stream Particle Size Analyzer is a high-performance online analytical instrument for measuring slurry particle size and concentration. It can provide fast and accurate particle size analysis results for grinding fineness monitoring and intelligent control, screening run coarse monitoring and early warning, in concentrating plants or coal washing plants.

Main Functions

On line measurement of slurry particle size and concentration

Sample Streams

BPSM is capable of measuring up to 4 sample streams.

Flow rates

70-300 l/min of slurry is required from the primary samplers or secondary samplers with 20~30 l/min of slurry going through the measurement probe.

Local Display Unit

The human machine interface is touch sensitive and displays:

- Operational status and primary sampler status
- Particle size data and history trending
- Alarms
- Zero check data
- Composite samples or calibration samples operation
- Measurement parameter inputs
- Model inputs
- User management
- Remote communication parameter inputs

Primary sampler control

BPSM's controller provides 3 digital output signals for controlling the primary sampling, line flushing and wait times automatically for each slurry sampling stream.

Cabinet sealing

The analyzer control set complies with IP54.

Controls and indications

Maintenance switches are provided for BPSM Particle Size analyzer. Light indicators are provided for power.

Connection to DCS

BPSM can provide MODBUS/TCP protocol or MODBUS RTU protocol for communication with the DCS.

Security

BPSM adopts the direct contact slurry measurement method, without safety problems.



BPSM Analyzing System

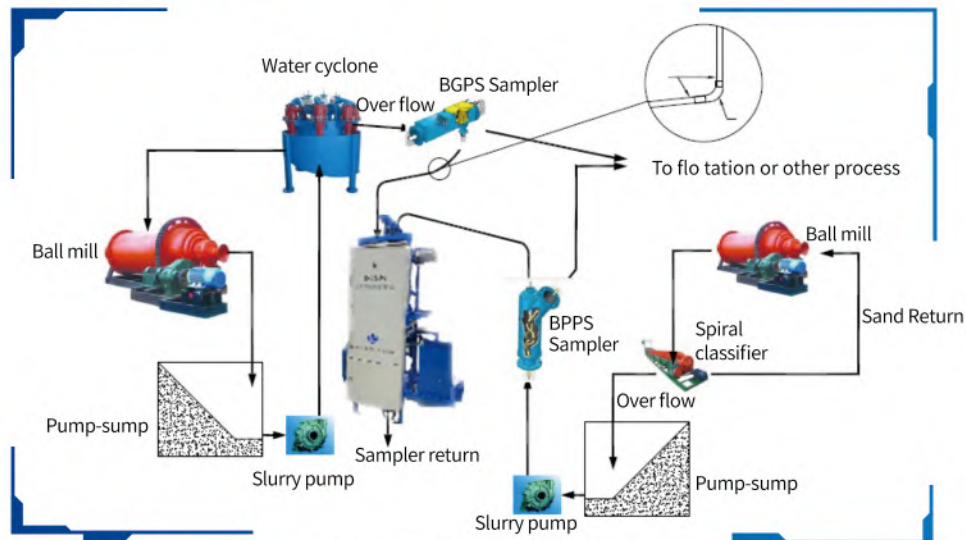


Figure 1: BPSM Analyzing System

Parameters

- Measurement principle**
 Principle of particle size measurement: Mechanical direct particle size measurement.
 Principle of concentration measurement: Weighing principle of concentration kettle.
- Measurement time**
 Depending on application, the measuring time will be 90 seconds per stream, leading to a total cycle time of 6 minutes for 4 streams.
- Measurable range**
 Typically measurable range is $600\mu\text{m} \sim 31\mu\text{m}$ (30Mesh $\sim$ 500Mesh).
- High accuracy**
 The measuring accuracy is typically 1~2% absolute for 1σ .
- Analyzer dimensions and weight**
 Host: 2500(H)mm $\times$ 1900(W)mm $\times$ 1100(D) mm, 300Kg.
 Control box: 1900(H)mm $\times$ 800(W)mm $\times$ 400(D)mm, 50Kg.
- Power supply for the analyzer**
 Basic single / dual phase 220V $\pm$ 10%, 4A, 50Hz.
- Temperature**
 Operating ambient temperature at sea level: $+5 \sim +45^\circ\text{C}$.
 Storage temperature: $-25 \sim +60^\circ\text{C}$.
- Flushing water**
 Flushing water is used for flushing the multiplexer and the calibration sampler.
 Quality: must be particle free.
 Pressure: 0.4~0.6MPa.
 Consumption: 30L/min.
- Instrumentation air**
 Instrument compressed air is used for second samples.
 Pressure: 0.4~0.8MPa.
 Consumption: 15 NL/min average.
- Connecting hose**
 Input: O.D 60 mm.
 Output: O.D 75 mm.

Features

