

FloCam

ONLINE MEASUREMENTS OF GRADE, OR MASS FLOWS FROM CONCENTRATE SUMPS

OVERVIEW

Online measurements of grade, or mass flows from concentrate sumps provide operators with real-time information on the operation and performance of a section of flotation cells. Monitoring the performance of individual cells however relies on periodic inspections – a manual activity that is often compromised by a large number of cells, in difficult-to-reach locations, or during inclement weather conditions. Flotation cells often operate inefficiently for extended periods of time between inspections, degrading overall circuit performance and reducing recoveries.

FloCam is a low-cost visual flotation monitoring system, providing a real-time measurement of flotation froth velocities on individual flotation cells. Mass-pull between cells can be controlled to a desired ratio, and operators can be alerted immediately of pulping or no-flow conditions. Live video-feed can be streamed from the FloCam system to the control room, providing operators with information to diagnose and react to operational problems quickly.

When the FloCam system is integrated with a flotation optimization strategy, it ensures that all cells contribute to overall circuit performance by adjusting the relative mass-pull between cells. While the FloCam system balances individual cell concentrate flows, the optimizer continues to target an optimal operating point by maximizing recovery subject to grade requirements, or by targeting a desired overall mass-flow.

FEATURES

- Low-cost implementation, allowing installation on all cells in section of flotation cells.
- Power over Ethernet (PoE) cameras to simplify installation
- Live video stream provided to control room
- Instant alerts of no-flow or pulping conditions
- Seamless integration with FloatStar Optimizers

BENEFITS

- **OPTIMAL PERFORMANCE**
Optimal performance if integrated with a real time optimization system such as Mintek's FloatStar Flow Optimisation system for improved circuit operation
- **CONTINUOUS MONITORING**
Reduces response time in correcting non-optimal behaviour due to its ability to continuously monitor flotation froth characteristics.
- **LOW-COST**
Low-cost visual froth monitoring system.



VIDEO STREAMS FROM CAMERAS



INTEGRATION WITH CONTROL SYSTEMS

Flotation Grade- or mass-pull optimisers typically manipulate level and air setpoints on all cells feeding into a common concentrate sump, based on a defined model or ratio. Without any feedback on individual cell performance, ore variability, equipment variations and manual adjustments results in unbalanced operation between cells, with some cells pulling harder than desired, and others underperforming. Under these conditions the optimizer may still be able to achieve the desired target, but at a reduced efficiency.

When FloCam is integrated with a flotation optimizer, the relative offsets between individual cells' air and level setpoints are dynamically adjusted to maintain concentrate mass flow velocities in a ratio defined by the operator or plant metallurgist. With all cells contributing to the overall concentrate stream in desired ratios, optimization targets are achieved while overall flotation operation is maintained close to an optimum point.



ADVANTAGES OVER COMPETING PRODUCTS

- Robust and reliable
- Measurements are more accurate and comprehensive
- Easier to install
- Low maintenance

ABOUT US

Process IQ provide measurement and control solutions to improve throughput, recovery and efficiency for the mining, metallurgical and minerals processing industry.

FloCam is a Mintek product. Process IQ is the authorised distributor for Mintek Systems in Australia and South East Asia

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