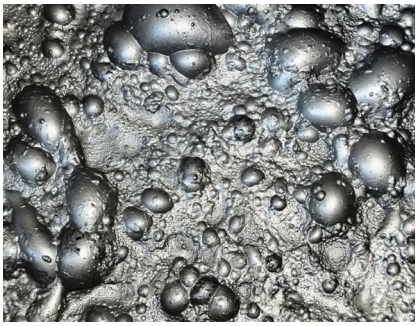
Wireless Pressure Monitoring at Mining Flotation Cell

Eliminate operator rounds and improve flotation cell efficiency using reliable, wireless technology

Process Overview

The way bubbles and minerals interact in a flotation cell is influenced by a variety of factors, including grade of ore minerals, chemical agents' dosage, size of particles coming from the grinding process, and air supply pressure.



Flotation Cell Challenges

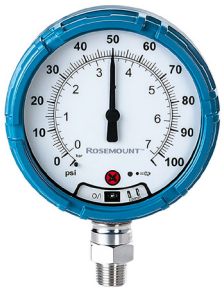
The quality and number of bubbles depend on how precisely the air supplied to each cell is managed, where there are some process challenges such as:

- **Obstructed Spargers:** When there are multiple spargers in each columnar cell, some may become obstructed without being noticed by operators. This reduces the quantity of generated bubbles and thus reduces the amount of minerals captured.
- **Low Pressure:** Partially blocked spargers produce small and slow bubbles which extends the mineral's residence time in the flotation cells, decreasing the production rate.
- **High Pressure:** When other spargers are blocked, the remaining spargers produce higher pressure bubbles that rise faster than necessary and explode before exiting, which captures fewer minerals and reduces mineral recovery rates.

Bourdon tube gauges are typically installed in the inlet of each air sparger. As these are mechanical devices, they are vulnerable to failure, and are time consuming devices because they rely on manual rounds to obtain data and detect any abnormal operation.

The Emerson Solution

Emerson's Rosemount™ Wireless Pressure Gauge eliminates manual rounds because it has WirelessHART® communication and automatically sends its measurement back to the control room free of wires. Patented solid-state sensor technology replaces mechanical components to increase measurement accuracy and overcome traditional vibration challenges. Installing these wireless pressure gauges allows you to easily monitor how spargers operate, taking action when necessary to avoid affecting the mineral recovery rate.



Wireless Pressure Gauge (WPG)

For more information, visit Emerson.com/mining-minerals-metals
or contact your local Emerson Sales Representative

EMERSON™