PROBLEM SOLVED™ PAPER

SOLUTION: Martin® Hurricane Air Cannons

INDUSTRY: Gold Mining

LOCATION: Tanzania, East Africa

TITLE: Martin® Air Cannons improved material flow & reduced manual interventic

Bin at Gold Mine in Tanzania

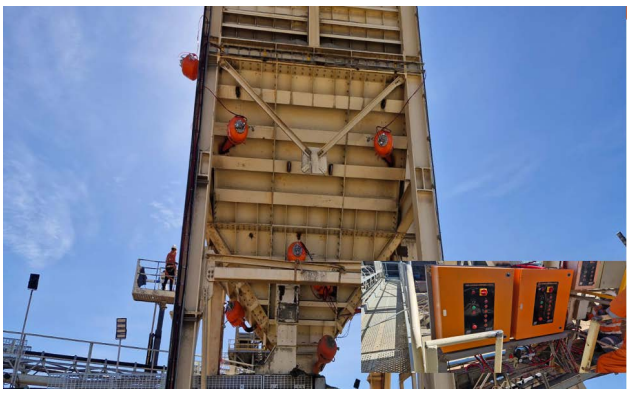
PROBLEM

At a large-scale mining operation in Tanzania, maintaining material flow is essential to support production targets, as the plant increases throughput. During operation, frequent blockages occurred in hoppers and chutes handling run-of-mine and crushed material, disrupting flow to downstream processes and creating bottlenecks. These blockages were caused by material buildup and compaction at transfer points, restricting flow and requiring manual intervention. Initial attempts to resolve the issue using a limited air cannon installation proved insufficient to maintain consistent discharge. As a result, the operation experienced reduced efficiency, increased downtime, and greater reliance on manual clearing, impacting both productivity and safety.

Martin® Hurricane Air Cannons Installation in progress

SOLUTION

Martin Engineering Africa assessed the application and recommended the installation of a comprehensive flow enhancement system using 70-litre Hurricane Air Cannons, strategically positioned across the affected bin. A total of fourteen air cannons were installed to ensure adequate coverage and effectively address the scale of the blockage problem. The solution was designed to deliver powerful air bursts to dislodge material buildup and maintain continuous flow. By increasing the number of air cannons and optimizing their placement, the system provided consistent performance and prevented the recurrence of blockages that had previously hindered operations.



Fourteen strategically installed Martin® Hurricane Air Cannons improved flow & reduced manual intervention

RESULT

Within three months of installation, the solution delivered strong and reliable results, with a clear improvement in material flow through the bin and a significant reduction in blockages. The system successfully resolved the issue, enabling smoother operations and reducing the need for manual intervention. Improved flow efficiency contributed to higher productivity and supported the mine's ongoing expansion efforts. Customer feedback has been positive, confirming satisfaction with the performance and reliability of the solution, and discussions are underway to extend similar installations to additional hoppers and chutes as part of future upgrades.

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