



BREWING SUCCESS: THE BUCKET ELEVATOR UPGRADE THAT SAVED A COFFEE ROASTER \$33,600 ANNUALLY

CHALLENGE ▼

A coffee roaster in the United States was experiencing recurring failures in its bucket elevator system, that transports roasted coffee beans. Ongoing gearbox and motor breakdowns disrupted operations and drove up maintenance costs. Additionally, the system frequently became overloaded, requiring the maintenance team to dig out the hopper manually – a labor-intensive process that further increased downtime and expenses. These interruptions took a toll on productivity and highlighted the need for a reliable, long-term solution.

TIMKEN BELTS SOLUTION ▼

The Timken Belts team used the Laser-Align, Frequency Finder, and the Drive Engineer® mobile app to identify the problem areas. Their analysis revealed two major issues.

First, the drag driver pulley was too small, placing unnecessary stress on the system. The team recommended a complete upgrade of the pulleys and belts, exceeding NEMA standards to handle the plant's current speed requirements.

Second, the bucket elevator belt drive was horizontally misaligned by a few millimeters. The team installed new drives and ensured proper alignment and tensioning procedures were applied to prevent future misalignments.

RESULTS THAT MATTER ▼

The new configuration delivered impressive results. The bucket elevator now runs efficiently, even with a full bin, eliminating the need for frequent hopper dig-outs and the associated labor costs. The upgrades also improved the unloading speed of the elevator by three minutes per trailer, significantly boosting productivity.

In addition to these operational improvements, the coffee roaster anticipates annual savings of \$33,600 due to reduced labor and maintenance costs and prevented equipment damage. Maintenance time was also reduced by 288 hours annually, freeing up resources for other tasks.

The success of this project has prompted the company to plan upgrades to a second bucket elevator and implement similar enhancements at another facility. The plant's maintenance manager praised the upgrades, emphasizing their positive impact on efficiency and productivity.

Timken Belts is part of The Timken Company's growing portfolio of engineering bearings and industrial motion products. Timken Belts manufactures premium-performance power transmission belts that help keep industry in motion and the world more productive.



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