

INNOVATION IN A TIGHT SPOT:

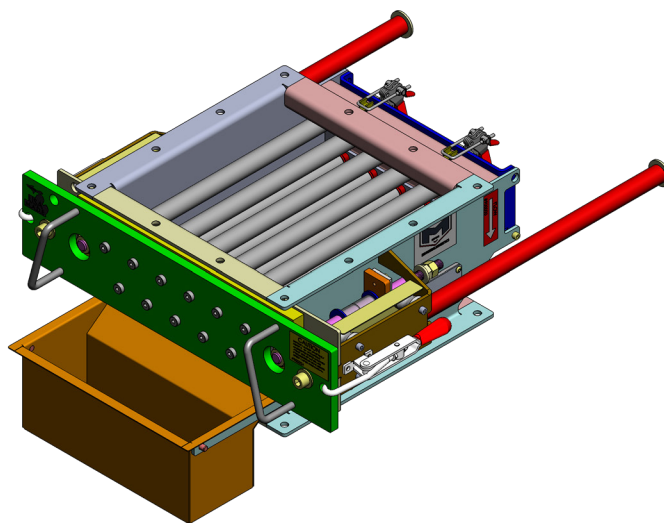
Enhancing Aggregate Purity Within Existing Footprints

Case Overview

- » The Client: A large-scale producer in the Aggregates industry.
- » The Challenge: Removing fine metal contamination from aggregate dust within a 24" air chute, where limited space ruled out a traditional Drawer-In-Housing and required a retrofit solution.
- » The Solution: A custom EZ Clean Magnetic Tube solution that was able to be retrofitted to their current operations.

Retrofitting High-Performance Separation into Restricted Air Chutes

Faced with metal contamination at a vibratory feeder's exit, an aggregates facility needed a solution that didn't require a costly restructuring. The product, a fine, aggregate dust, passed through a 24" wide rectangular air chute that offered little room for changing the current set up. While the risk of downstream equipment damage from fine metal was clear, the existing footprint was too small for a traditional [Drawer-In-Housing](#) (DIH) unit, leaving the facility caught between a contamination risk and a major structural renovation.



Caption: A standard Drawer-In-Housing can be large in nature, which would have required changes to the setup of the processing line for this customer.

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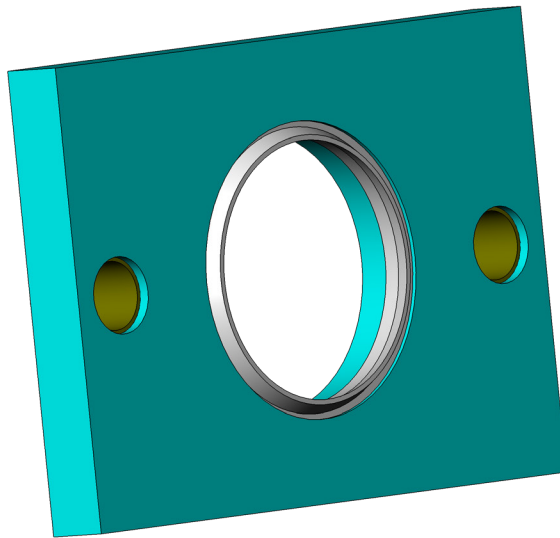


Engineering the EZ Clean Magnetic Tube

Recognizing that standard versions of a magnet would fail these spatial requirements, the IMI sales and engineering teams looked for an opportunity to bridge the gap between a basic magnetic tube and a full housing. To achieve this, there was going to be a need for custom engineering that came into play to produce a new solution. The goal was to provide the stout cleaning efficiency of a large unit while maintaining the size profile of a single tube. By focusing on a Large Grate Tube design but with the focus on one single grate tube magnet, IMI aimed to provide a high-performance retrofit that could be installed as an aftermarket solution without structural modifications. The location of the Large Grate Tubes were important and strategic as the dust that is flowing through the chute flows into the final product. Leaving metal in the final product is detrimental.

A Precision Fit with “Easy Clean” Functionality

The resulting EZ Clean Magnetic Tube was the product of collaboration between the teams at IMI and the aggregates customer. Thanks to deliberate and strategic engineering, a solution was developed to the 24” specifications of the existing chute; the unit utilized a 3” diameter magnetic tube integrated into a custom-engineered frame. When the plant is operational and the product is flowing, aggregate dust will blow by the tubes that are built into the chute, with the metallic dust particles sticking to the tubes. A key feature that creates ease of use and maintenance for the operator was the addition of a wiper seal mechanism. This allows captured metal to be stripped from the tube quickly and safely. Instead of reaching into the chute or manually wiping aggregate dust, the operator can clear the magnet in seconds, maintaining the flow of production.



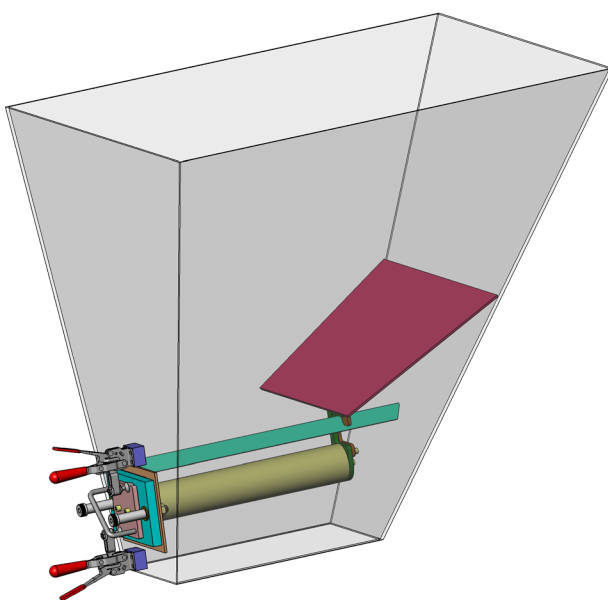
***Caption:** The wiper seal part of the custom tube magnet that allows for easy cleaning and short amounts of down time.*

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Conclusion

This project illustrates how innovation does not always require expansion, sometimes it requires precision. By working closely with the customer to understand the operational constraints and contamination risks, IMI's sales and engineering teams delivered a custom magnetic solution that balanced performance, footprint, and ease of use. The custom magnetic solution provided high-efficiency metal separation within an existing 24" air chute, eliminating contamination risk without costly structural modifications or production downtime. Through collaboration, strategic engineering, and a retrofit-focused mindset, IMI transformed a tight-space challenge into a reliable, long-term solution that protected product quality, safeguarded downstream equipment, and kept production moving forward.



Caption: Custom EZ Clean Magnetic Tube retrofitted into a 24" air chute. The magnetic tube captures metal particles as material passes through the chute, then unlocks and slides out for quick, safe cleaning without disrupting production.

About Industrial Magnetix, Inc.

Industrial Magnetix is a leading force in the magnetix industry, known for its strong emphasis on craftsmanship, quality, and performance. IMI is exceptional at delivering custom solutions to meet customers' needs. The company has found success for over 6 decades by staying true to its founding goal: knowing the customer and the application, manufacturing the best solution, and delivering it as promised.

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