

A Sticky Situation

Metal Separation at a Sugar Cane Refinery



PROBLEM: CANDY COATED MAGNETIC TUBES

Due to high humidity and the adhesive nature of sugar, the customer's existing magnets were incapable of providing ferrous metal capture or processing equipment protection. Magnetic tubes, which were supposed to capture contaminants, were instead coated in sugar and, as a result, when cleaning occurred by actuating tubes through stripper seals, the seals were cracking and falling into the "pure" product stream. Additional contaminants were simply "washed off" the tubes because of the weakness created by the sugarcoating and air gap.

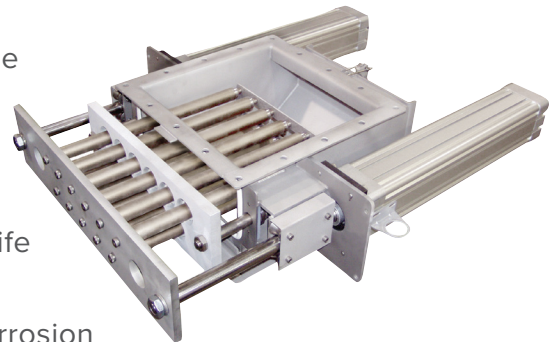
IMI demonstrated the mechanical advantages of IMI's unit side-by-side versus their current housing; the IMI unit pull-tested stronger- with nearly 40% more holding power.

SOLUTION: THE OX[®] DRAWER-IN-HOUSING MAGNETIC SEPARATOR

The Ox[®] was designed specifically for use in this environment, to combat external elements in processing facilities, including ambient temperature and humidity as well as material contents causing application challenges such as bridging, abrasion, corrosion and galling.

UNIT FEATURES:

- Powerful UHI-55[®] Rare Earth 55 MGOe circuit for fine particle separation – the most powerful circuit in the industry
- Hydex[®] wiper seals – ideal for applications where product tends to stick on tubes
- Welded stainless steel construction for long, non-corrosive life in environments that typically involve salty air from seaports
- Nedox[®] coating to eliminate galling, coating of tubes and corrosion
- Rear access door to aid in accessing the back of the housing for cleaning or maintenance purposes
- De-Sta-Co clamps for ease of opening and closing unit for cleaning and inspection
- Compression springs to initiate movement of the stripper plate for cleaning and ensure that contaminated product does not fall back into the pure stream when the cleaning phase is actuated



RESULTS:

- Purity of product goals were achieved due to higher metal contamination capture
- Downtime to replace seals and other spare parts was eliminated
- Elimination of non-value added time caused by having to inspect downstream product for seals

ABOUT THE AUTHOR

Dennis O'Leary is the Chief business development officer for IMI Holdings (Boyer City, MI), which includes Industrial Magnetics (Boyer City, MI), Prater Industries (Bolingbrook, IL) and Sterling Systems & Controls (Sterling, IL).