Milltronics Idler Belt Scales
Provide Accurate Weight Feedback

Plant Name and Location
MS Industries
Russellville, AL

Belt Feeders for Metering Silica Flour for MS Industries in Russellville, AL

General Description of the Application

MS Industries (MSI) is an industry leader in the developmental research and mining of high grade industrial silica sand products. Recently, MSI built one of the largest industrial grade silica sand and ground silica flour processing facilities in the United States. The Russellville, Alabama facility processes American mined silica sand into foundry sand, frac sand, silica flour, and custom varieties for use in glass products and various other industries.

MSI contacted KWS to partner in the design and supply of mechanical conveying equipment, including screw conveyors, weigh belt feeders, and bucket elevators needed to transport bulk silica sand from its arrival via railcar or truck throughout the milling and finishing processes. KWS supplied two identical belt feeders furnished with Milltronics MSI idler belt scales to provide accurate weight feedback as the raw silica sand is unloaded from storage tanks and conveyed to the finishing mills. Having accurate weight feedback from the belt scales aids in the prevention of overloading the mills that could hinder the mills' ability to perform as intended. The collaboration between MSI and KWS helped increase the production capacity of the facility from 100,000 tons in 2017 up to 300,000 tons by the end of 2018.

Design Parameters of Application

Product Type: Silica Flour
Material Density: 80 to 100 Lbs. per Cubic Foot
Capacity: 160,000 Pounds per Hour
Duty: 24 Hours per Day, 7 Days per Week

Advantages Provided by KWS

MSI contacted KWS during the early stages of the project's preliminary design phase to inquire about our offering of mechanical conveying equipment. Our highly trained KWS Sales Engineers worked with plant management at MSI to gather all the critical design and performance specifications for the equipment. MSI provided KWS with basic layout drawings with dimensional constraints of the area and trusted the KWS engineering team to finalize the ideal design solution for each piece of equipment to be provided. The KWS engineering and design team created 3D general arrangement models of the equipment, to ensure the equipment had enough clearance to fit in the required areas.

Special Features of KWS Design

Given the small powder-like particle size of silica flour, it can be extremely dusty if it enters the atmosphere and could cause health issues if inhaled. The KWS belt feeders are totally enclosed using heavy-duty gauge steel and dust and weather tight. The enclosed design also aids in minimizing housekeeping concerns.

The material flow from the storage silo must be contained to provide accurate metering of the silica sand to the finishing mills. The flow is controlled using an adjustable sliding strike-off plate fabricated from abrasion resistant steel. The strike-off plate prevents the material from free-flowing down the belt and controls the material depth on the belt. When combined with the KWS hammer style roller slide gates mounted between the storage tanks and belt feeders' inlets, high metering accuracy is achieved.

More on Next Page »

Design Engineering Manufacturing

KWS Manufacturing
3041 Conveyor Drive
Burleson, Texas 76028

Toll Free: (800) 543-6558
Phone: (817) 295-2247
Fax: (817) 447-8528

www.kwsmfg.com

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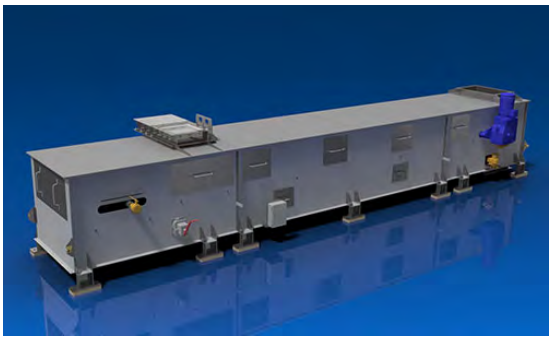
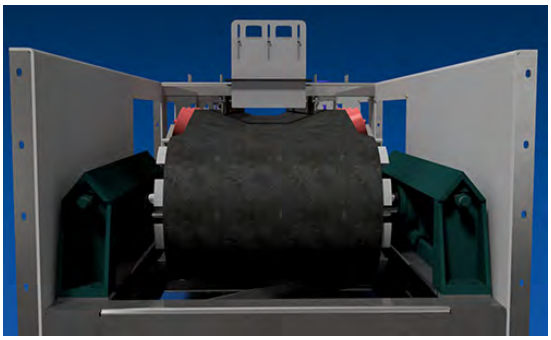
Testimonial

"The belt feeders that KWS provided are installed and running great with the rest of the system. Thank you, KWS! "

- Daniel Sim, MS Industries, LLC – Plant Manager



KWS Belt Feeders are Totally
Enclosed to Contain Silica Flour



Adjustable Strike-Off Plate Provides
Accurate Metering of Silica Flour

Design
Engineering
Manufacturing

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