VOXER TITAN SLIDE GATE HANDLING SLAG

Customer: Conveying Systems Group

Material: Slag

Application: Shut off and meter the flow of slag from the bottom of a hopper

Challenge: Customer required a slide gate that could seal the material handled, address its abrasiveness, and meter material flow

Valve: Vortex TSG Gate with AVP controls TS300(mm)-SC

Results:

Slag (also called cinder) is a by-product of the ore smelting process. During smelting, ore is exposed to high temperatures, and impurities in the ore are separated from the molten metal. Slag is the result of the removed compounds. Ground, granulated slag is often blended with cement to make concrete stronger. It is also used as a fertilizer and to create fibers used in insulation material.

For this project, the customer is bagging material for resale. The process required a slide gate that could seal the material handled, address its abrasiveness, and meter material flow. The Vortex TSG Gate was a perfect choice.

The combination of replaceable bonnet seals (that allow maintenance to change out the seals, as needed, without taking the valve out of place) and the displacement pocket closure (that allows material to fall away from the leading edge of the blade – rather than packing it into an end seal) were important features. Additionally, the gate was manufactured with 304 stainless steel interior liners to address reactive qualities of the material handled.

The gate was equipped with adjustable variable position (AVP) controls that allow the pneumatically actuated blade to meter material from partially open positions between full open and full closed. This feature aids in controlling the flow of material for the bagging operation.

As this system was created for a customer in Russia, special air control solenoids were specified that were suitable for a -40°C environment.

The modified gate and accessories met all the requirements required for the project.