VORTEX AGGREGATE DIVERTER HANDLING FRACTURE SAND

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Customer: Industrial Minerals Producer

Material: Frac Sand (Fracture Sand)

Application: Rail Car Unloading /Truck Loading Station

Divert frac sand from a bucket elevator into three storage tanks

Challenge: Locate a diverter valve able to withstand the abrasion associated with handling a large volume of abrasive product.

Valves: Vortex Aggregate Diverters
BD14-2CS-SL-45-MG-DP-HL-HB-RTP
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Update Results:

This rail unloading station is utilizing two Vortex Aggregate Diverters to divert frac sand (high silica content quartz sand used to create underground fractures from which oil and gas can be recovered) from a bucket elevator into three separate tanks for truck load out. Installed during the summer of 2008, the valves handle approximately 1,000 ton of material a day, five to six days a week.

Honeycomb "rock box" liners

Due to the abrasive nature of the material handled, the diverters were modified with an inlet dead pocket, honeycomb diverter bucket liner, and honeycomb liner on the diverter's interior off-leg chutes to provide additional abrasion resistance.

During the first four years of operation, an estimated 520,000 tons of frac sand has been handled. The external spouting that direct the flow of material from the diverters to the storage tanks have required periodic repair and have been replaced twice due to abrasion. NO MAINTENANCE has been performed to either of the Vortex diverter valves.

Vortex produces similar products that address harsh, abrasive applications like frac sand.