



VORTEX ROLLER GATE HANDLING ROLLED CORN

Customer: A Leading West Coast Poultry Producer

Material: Rolled Corn

Application: Control the flow of rolled corn from a holding silo located above a drag conveyor.

Challenge: Engineer and manufacture a large, dust-tight, slide gate that will withstand 40 lbs. per cubic feet of abrasive material in a gravity application.

Valves: (5) Vortex Roller Gates
SA52-MG-HS-RS-E
(1) Vortex Dual Cylinder Roller Gate
SD52-MG-HS-RS-E



Results:

In the fall of 2010, this customer requested a quote for (6) electric actuated roller gates constructed of 6" carbon steel to convey rolled corn in its own feed mill, a new addition to the poultry farm. As luck would have it, Vortex's Mobile Display Unit (MDU) was scheduled the following week in the customer's area, so the local Vortex representative scheduled an MDU visit with the customer.

Following the visit, the Vortex engineering team reviewed the customer's application. To accommodate the abrasiveness and flow rate (7,600 TPH) of the rolled corn, the Vortex team selected a 3/4" abrasion resistant carbon steel blade (400 BHN) and greasable hardened steel rollers. Each valve is pneumatically actuated with (2) end mounted tandem 8" bore air cylinders to open and close the 52" dust-tight gates.

Due to space constraints on one of the silos, (1) roller gate was engineered as a dual cylinder roller gate with 8" bore air cylinders. The pneumatic air cylinders were selected over an electric actuator to address the desired actuation speed: 3-4 IPS pneumatic versus 1.6 IPS electric.

To extend the wear life of the rollers and blade seals, all valves were engineered with replaceable 304 stainless steel special service inlets. The special service inlets also prevent packing of material. For ease of maintenance and reduced downtime costs, the blade seals can be replaced without removing the valves from service.