



VORTEX ROLLER GATE HANDLING PLASTIC SCRAP

Customer: Medical Equipment Manufacturer

Material: Plastic scrap

Application: Seal air and material at the bottom of a dust collector

Challenge: Replace a problematic double dump valve

Valve: Vortex Roller Gate
SA36-MG-RS



Results:

During the manufacturing process, fine strands of plastic material are trimmed from the company's extruded product. It is imperative that this scrap is immediately removed due to the fact that it retains static electricity and has a tendency to stick to anything nearby. Cleaning these strands off the finished product before it is packaged becomes a nightmare.

Prior to 2009, a double dump valve was utilized at the bottom of a traditional dust collector. The valve was used to "cycle" material out of the collector into a trash container. The process was cumbersome, it did not effectively remove the scrap, and the fine scrap adhered to everything. The accumulation of the scrap material became difficult to remove from the collector and created other issues, such as smearing on the carbon steel valve blades. Build up of material on the blades eventually caused blade actuation issues.

Working with company engineers, the local Vortex representative designed a unique collector for this application. It utilizes a "push-pull" system where the strands are pulled away from the cutting process and into a receiving bin and then are pushed into a compactor located beneath a slide gate. Material is alternately directed from the same receiving bin into two different compactors. It is literally sucked away from the cutting process and blown into the compactor at the same time. As such, the sticky strands are quickly removed from the cutting process and do not have the opportunity to adhere to equipment within the system. The 36" Vortex gates are equipped with stainless steel blades and special blade seals that address both the material handled and the minimal vacuum (approximately 1 Hg) used during the process.

The dust collectors no longer demand extra time from the maintenance department allowing them to address other matters.

Vortex valves are available in a variety of models and modifications that are designed to solve customer material handling problems.