



Dust Collection Systems in the Spice Marketplace or... SysTech Spices Things Up!

BY MATT GLOVER

Over the past several years, SysTech Design has been involved in many projects servicing the spice manufacturing, processing and packaging industries in the Maryland region. Several plants throughout the greater Baltimore area, including Hunt Valley and Hampstead, have worked with our design team to address issues involving nuisance dust control, explosion protection, and noise abatement projects.

Recently we had a challenging project related to the sizing of dust collection equipment for spice grinding mills. SysTech selected the appropriately sized dust collectors, outfitted them with the necessary fans, controls and additional components for compliance with combustible dust regulations, and provided on-site support during the installation and start-up of the equipment. Grinding operations oftentimes produce a particle size that “blinds” conventional filters, leading to shortened filter life and frequent filter changeout. We implemented Donaldson’s DFE cartridge dust collector, designed for enhanced compressed air pulse cleaning system with triangular cartridges to prevent top deposition of particulate. But the unsung hero of this project is Donaldson Torit’s Ultra-Web Spunbond cartridge filter media. This filter media’s ability to stand up to oily materials, such as finely ground cumin and cinnamon has allowed prolonged filter life with more efficient cleaning as well as constant capture designed airflow. The client takes advantage of a secondary benefit of this filter media selection; its ability to be gently washed down for reuse, cutting the operational costs of the equipment.



Spice blending application using a Donaldson Model DFO 2-8 dust collector, fan, silencer, rotary airlock and chemical explosion protection system.

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Other recent spice manufacturing projects we've undertaken include:

- *Upgrading a dust collection system on spray dryers and mills with chemical explosion suppression systems.*
- *Performing a noise study and developing a plant remediation plan.*
- *Ambient dust control system on plant packaging area.*
- *Dust Collector system sizing and layout for ribbon blender operation.*
- *In-house education and training on dust control practices and combustible dust compliance.*

Experience is the best teacher, and SysTech has learned so much by implementing and completing projects in spice manufacture, while working with astute industry engineers and quality factory personnel.



Donaldson Torit Model DFE 3-18 Dust collector with explosion isolation on spice grinding mill.