

# Combustible Dust Collection Systems



## High Efficiency + NFPA Compliance

Combustible dust explosions are a risk in many areas of a plant—but one of the most common locations is in the dust collection system itself. How can you know if your system complies with local standards? What steps should you take if it doesn't? To minimize risk to your employees, your property, and your business, it is essential to identify and resolve potential explosion hazards as soon as possible.

Praxair's experts can help you identify and plan for compliance with all applicable combustible dust health and safety requirements. Our MetFab Productivity Specialists (MPS's) will work with you to plan and implement cost-effective solutions.



### ► Outlet Isolation

The iSMF isolates downstream equipment from progression of a flame front during an explosion. A safety monitoring filter can manage exhaust flow when your dust is explosive to prevent transmission of explosive dust (fuel) from the collector.

### ► Stinger Inlet Isolation Valve

Prevents a deflagration (explosion), that could occur in the dust collector, from traveling back down the inlet pipe back into the workspace or manufacturing process.



### ► Explosion Vent

Designed to be the weak link of the vessel, explosion vents open when a predetermined pressure is reached inside the dust collector, allowing the overpressure and flame fronts to exit to a safe area. Explosion vents minimize damage to the dust collector caused by over pressure created by a deflagration.



### OR Flameless Vent

Installed over a standard explosion vent, extinguishes the flame front in the vented area without allowing it to exit the device.

# Full Plant and Area Fume Control Systems

Praxair can help you increase safety and reduce your exposure to structural and mechanical damage.



The Gold Series X-Flo (GSX) industrial dust collector is built on 20 years of successful performance of our award-winning Gold Series system. It handles all kinds of toxic and combustible dusts and fumes, including fine, fibrous and heavy dust loads. GSX dust collectors effectively process dust while maintaining a low pressure drop. You get the maximum airflow and dust processing power for any given footprint.



## Safe and Compliant

GSX dust collectors help you to meet OSHA mandates for indoor air quality. They are tested to meet NFPA and ATEX standards and are available with many explosion protection options including explosion vents, isolation valves, integrated safety monitoring filters, and fire-retardant filter cartridges.



Camfil APC offers dust testing services and a fully equipped test lab that provides bench dust testing and ASHRAE Standard 199 testing.



## Deflagration Venting Sequence

Minimizing structural and mechanical damage.



At the start up of a staged explosion, explosive dust is injected into the dust collector to create a flammable cloud.



Approximately 50 milliseconds later, the dust ignites and the vent opens.



The flame is diverted away from the dust collector to a safe area.



The smoke quickly clears. The entire event occurs in approximately 150 milliseconds.