

Looks Like a Safe Because It's Built Like a Safe



## explosion protection solutions

Camfil Farr APC

Explosion Protection Solutions

Air Pollution Control



## Inlet Protection

### Inlet/Outlet Chemical Isolation

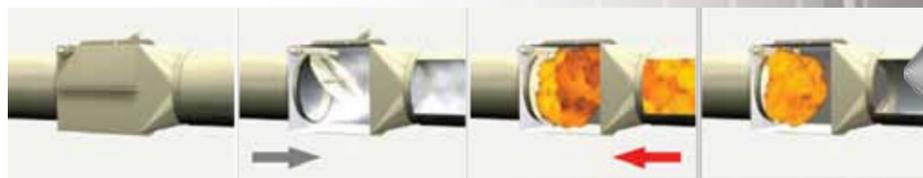
Designed to react within milliseconds of detecting an explosion, a chemical isolation systems can be installed in either inlet and/or outlet ducting. The chemical isolation system creates a chemical barrier that suppresses the explosion within the ducting and reduces the propagation of flame through the ducting and minimizes pressure increases within connected process equipment.

### Fast Acting Valve

Designed to close within milliseconds of detecting an explosion, the fast acting valve installs in either inlet and/or outlet ducting. The fast acting valve creates a mechanical barrier within the ducting which effectively isolates pressure and flame fronts (from either direction) from being able to propagate further through the process.

### Back Draft Damper

The mechanical back draft damper was designed to be installed in the inlet ducting. The damper utilizes a mechanical barrier that is held open by the process air and is slammed shut by the pressure forces of the explosion. When closed, the mechanical barrier isolates pressure and flame fronts from being able to propagate further up the process stream.



### Chemical Suppression

Designed to react within milliseconds of detecting an explosion, a chemical suppression system is installed in the collectors dirty air section, being it in the filter housing or the hopper. The chemical suppression system prevents expanding a deflagration by releasing a chemical agent.



## Outlet Protection

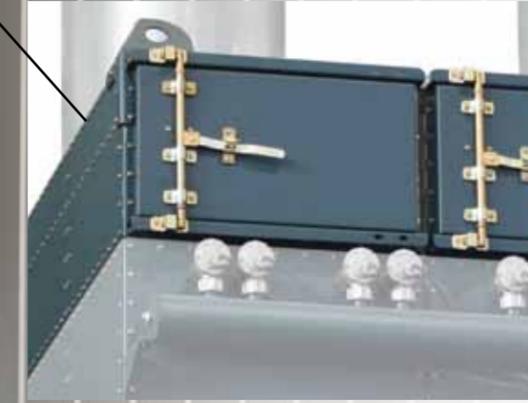
### Ventex Valve

The Ventex valve was designed to be installed in the outlet ducting of a dust collection system. This valve utilizes a mechanical barrier to isolate pressure and flame fronts caused by the explosion from propagating further through the ducting. The mechanical barrier reacts within milliseconds and is closed by the pressure of the explosion.



### High Speed Abort Gates

High speed abort gates are designed to be installed in the outlet ducting of the dust collection system. The devices are designed to divert process air and/or smoke to a safe location outside when a possible ignition source is detected entering the dust collection system or when a fire is detected. It's primary purpose is to protect the inside of the building from burning debris, embers or smoke



### Integrated Safety Monitoring Filter

The iSMF has been proven to isolate the downstream equipment from the progression of a flame front during an explosion. The Gold Series dust collector with an integrated Safety Monitoring Filter allows you to recirculate exhaust air back into the work space when your dust is explosive. The key advantage of this device is that it prevents the transmission of explosive dust (fuel) from the collector.



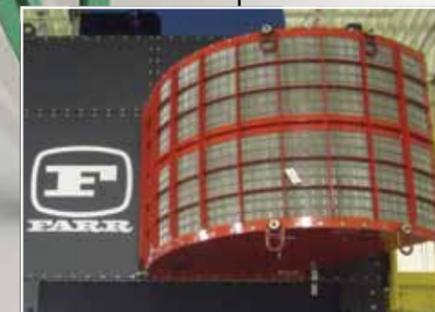
## Explosion Venting

### Explosion Vent

Designed to be the "weak" link of the vessel, explosion vents open when predetermined pressures are 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 overpressure created by a deflagration. Camfil Farr's standard explosion vents are ATEX certified and NFPA compliant.



## Explosion Venting Sequence



### Flameless Vent

Designed to install over a standard explosion vent, the "FlamQuench SQ" extinguishes the flame front exiting the vented area not allowing it to exit the device. This allows conventional venting to be accomplished indoors where it could otherwise endanger personnel and/or ignite secondary explosions.

# Explosion Protection Solutions

## Blast Plate

A Blast Plate is a deflector mounted directly in front the explosion relief area. The deflector is designed to restrict the flame length ejected from the collector in the event of an explosion. For vessels that are not greater than 706 cubic feet, the deflector is designed to reduce the axial (front-centerline) safe distance by 50 percent.

## Vertical Plenum

A plenum that is bolted to the dirty air section of the collector. The explosion vent is mounted to the top of the plenum which effectively transitions the pressure and flame fronts from a horizontal to a vertical configuration. A vertical configuration make it possible to explosion vent through a roof and/or direct the pressure and flame fronts to a safe location as outlined in NFPA standards. In most cases, ducting and weather hoods are required to be compliant with NFPA standards to protect the explosion vents from the elements and other debris. Access panels are provided on the ducting so that easy inspection and/or replacement of the explosion vent is made possible without removing the ducting and weather hood.

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