



Smart Dust Collection Solutions

Coperion industrial air filters

**Extensive
air filtration
experience and
process systems
knowledge**





Coperion – Process is Our Purpose

Coperion specializes in engineering cutting-edge technologies and solutions across the bulk material handling spectrum. Our teams deliver complete solutions for your real-world needs, based on deep process and engineering expertise. For decades clients around the world have relied on us to deliver the quality, reliability, safety and performance they need through end-to-end process solutions and high-quality precision equipment from well-known and proven brands including Kemutec, Baker Perkins and Raymond Bartlett Snow.

Today, we're more tightly focused than ever: a company focused on food and performance materials, with a distinctive way of doing business. Collaborative. Adaptive. And most of all, committed.



Coperion has considerable experience controlling dust in process areas which reduces the potential risk of explosion.

When handling explosive dusts the range of filters can be fitted with a variety of explosion protection technologies such as explosion venting, flameless venting or suppression, to suit specific site or material requirements.

Extensive industrial air filtration expertise with process systems knowledge

Coperion offers a portfolio of industrial air filtration products that have been designed for a wide range of technical and process requirements. The company has been successfully removing dust for over 50 years. The extensive product line includes bag and cartridge filtration products suitable for varying air flows and applications.

The range of air filtration products have been designed to offer the customer unrivalled flexibility. Access into the filter housings for media replacement can be accomplished either through the top or side of the unit to suit the process or site requirements. Most of the products in the Coperion filtration range are available in the following four configurations:

- » Clean air plenum only
- » Clean air plenum and filter body
- » Clean air plenum, filter body and bottom hopper
- » Clean air plenum, filter body and bottom product receiver hopper for conveying applications

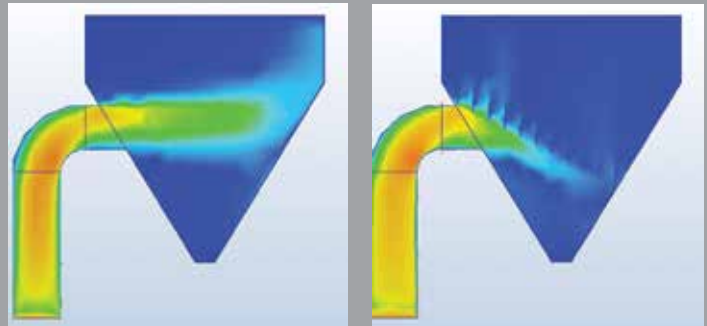
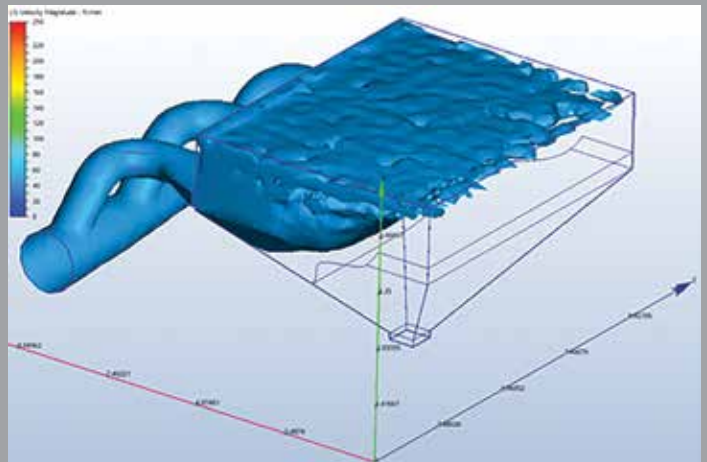
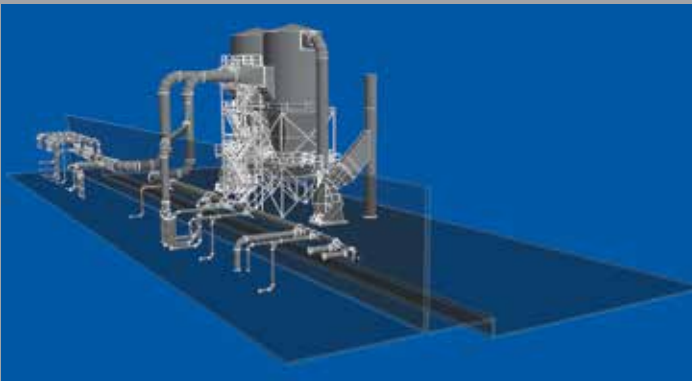


Engineering site surveys for air filtration systems

When it comes to finding the perfect air filtration system for your specific application, Coperion has over 50 years of experience in designing and managing dust collection projects for customers throughout the world. Coperion provides engineering services to dust collection users that include on-site air filtration surveys. Program participants receive a full assessment of their current air filtration systems along with recommendations on improving efficiencies.

Engineering surveys

- » On-site dust collection analysis
- » Particle size analysis and emission testing
- » Field measurement of dust producing equipment and plant layout
- » Preliminary sketches of plant/equipment layout based on this analysis and current recommendation to include appropriate NFPA compliance
- » Pictures, data, details and all pertinent information required to evaluate current conditions of dust systems
- » Evaluate physical conditions of existing filters, fans and airlocks
- » Evaluate existing ductwork layout and sizing, dust discharge design and pneumatic transfer system
- » Consult with customer personnel to determine system rates, equipment functionality, problem areas and desired results from findings
- » Provide quotation for new and upgraded solutions



3-D CAD Drawings

On completion of the site survey and analysis, Coperion uses 3-D modeling to design a solution for your facility. Our staff has years of experience to design an efficient system that will solve your dust control issues.

CFD Modeling

Computer Fluid Dynamics (CFD) analysis is used to locate problems in the air stream and indicates where improvements can be made. Our expert team utilizes CFD analysis to verify hood, duct work, and filter design for energy efficient and robust systems.

Project management

At Coperion, everything we do is centered on customer satisfaction. We strive to make your equipment and systems robust and efficient. Our project management teams become an extension of your business with a direct line of communication to the many resources within the Coperion global network. Your Coperion team will take command of the design/build process from the project kick-off all the way to process commissioning. From start to finish, our teams are dedicated to meeting your business goals.

As part of our Project Management program we offer a wide range of engineering services that facilitate the optimum air filtration design and installation.

Staff highlights

- » Over 100 engineers on staff
- » Project Managers and Engineers
- » Process Control Engineers
- » Equipment Design Engineers
- » Quality Control Engineers
- » Global Service Engineers

Statistics

- » Projects ranging from \$50K to \$22M
- » Over 850 completed projects and \$400M in project revenue
- » High customer retention rate
- » 80% of projects come from repeat customers



MCF PowerSaver[®] dust collectors: the economical solution

As the cost of energy continues to increase, plant managers are continually looking for ways to reduce power consumption. Within the Coperion filter portfolio is the unique MCF PowerSaver[®], a dust collector that can save up to 50% of operational costs by using medium pressure air at only 48.3 kPa for the cleaning cycle. The air is provided by its own blower, therefore no plant compressed air is used, potentially freeing up the expense to produce air for other applications.

- » Heavy duty carbon or stainless steel construction
- » Walk-in clean air plenum with lifting lugs
- » Hinged service door for easy access
- » Direct-drive rotating surge tank, diaphragm valves, and distribution arm powered by an explosion proof motor
- » Mechanically controlled medium pressure air cleaning mechanism consistently discharges air directly over filter bags, each and every time
- » Topside cage and snap-band bag removal – no tools required
- » Self-contained positive displacement pump supplies all the air that is required for filter cleaning
- » Stainless steel explosion vents are available when required



Mac2Flo® dust collector

High filtration efficiency
for the finest dusts

The Mac2Flo® provides cost effective filtration of the finest submicron dusts. The unit operates using the down flow principle which guarantees effective settling of the fine, light dusts with low terminal settling velocities. As each filter cartridge can contain up to 24 m² of media, large filtration potential can be housed within a relatively compact housing.

- » Modular design reduces initial capital cost and makes future expansion easy
- » Tool-free cartridge removal reduces on-going maintenance costs
- » Reduced set-up time lowers installation costs
- » Compact design takes up less floor space

Vertical cartridge filter (VCF)

Equipped with time and
cost-saving features

The Vertical Cartridge Filter (VCF) is a dust collector designed for handling medium to high air volumes. Equipped with an easy-to-use cartridge clamp system simplifies replacement of the filter media minimizing maintenance time and lowering overall cost of operation. A robust design adds to the overall stability of the filter. Each unit is constructed with reinforced carbon steel that is rated for 6.4 psi Pred.

- » Vertical cartridge design cleans more efficiently
- » Industry leading Pred of 6.4 psi
- » Easy cartridge access for quick removal
- » Carbon steel reinforced construction
- » Multiple inlets for all applications
- » Rated for 30" W.C. and 250 °F (121 °C) standard temperature
- » HEPA options are available



As part of the Aftermarket service and spare parts package, Coperion is able to supply new and replacement air filtration bags, cartridges and ancillary parts for the full range of filter products. Coperion filter media is designed to ensure the most efficient performance of the filter unit and it is recommended that Coperion branded filter media is continually used to maintain this high performance level.

Replacement bags and cartridges for other manufacturer's filters are also available. Contact the Aftermarket sales team for further details.

Pulse jet filters

An extensive range of product and application options

Coperion Pulse Jet filters can be used in a wide variety of air filtration applications. There are nine different products in the Pulse Jet range that offer a multitude of air volumes, access positions and air inlet arrangements. All models incorporate the same compressed air cleaning technology, reliable components and high quality construction.



SEntry (Side Entry)

The Side Entry horizontal cartridge filter is designed for low headroom applications.

- Easy maintenance and accessibility even in confined space
- The rectangular envelope style cartridge design minimizes product retention on the filter cartridge
- Wide pleat arrangement allows for high air-to-cloth ratios
- Can be explosion vented through the roof without increasing the cross sectional area of the filter unit



AVS/AVSC Filters (Air Vent Square)

Bottom removal (below the tube sheet) filters.

- Without the hopper (style 2) the filter is ideally suited as a bin vent filter for storage tanks, work bins and surge hoppers
- With a 60° hopper (style 3) the filter receives dust through a hopper entry inlet and discharges the collected dust into a bin or through an airlock for dust disposal or recycling
- Can be customized for higher operating static pressures to meet specific application requirements
- AVS Filters utilize bag media while the AVSC contains cartridge media



AVR/AVRC Filters (Air Vent Round)

Bottom removal (below the tube sheet) filters and are capable of handling heavy dust loads.

- Style 2 type filters are ideally suited as a bin vent filter for storage tanks, work bins and surge hoppers
- Style 3 type filters with a 60° hopper can receive the dust into a bin or through a hopper entry inlet and discharge the collected dust through an airlock for dust disposal or recycling
- Can be configured with a pneumatic receiver section and receive product from a vacuum or pressure conveying system
- AVR Filters utilize bag media while the AVRC contains cartridge media



ST/STC Filters (Square Top-Removal)

Similar to the AVS Filter, but with top removal. The filter media is installed and removed through the clean air plenum of the filter.

- Hinged top doors allow clean air access to the filter media
- ST Filters utilize bag media while the STC contains cartridge media



LST/LSTC Filters (Large Square Top-Removal)

Similar to the ST Filter, but larger sized. The filter media is installed and removed through the clean air plenum of the filter.

- The plenum can be designed as a walk-in plenum so the filter media replacement and maintenance can occur in an enclosure
- When the option of a walk-in plenum is not selected, hinged doors on top of the plenum provide access to the filter media
- LST Filters utilize bag media while the LSTC contains cartridge media



RT/RTC Filters (Round Top-Removal)

Similar to the AVR Filters, but with top removal. Filter media is installed and removed through the topside, or clean air plenum of the filter.

- Designed for low air volumes, the RT can handle higher pressure or vacuum than a square or rectangular unit
- RT Filters utilize bag media while the RTC contains cartridge media



RPT Filters (Rectangular Pulse Top-Removal)

A rectangular top removal bodied filter unit designed to handle high air volumes.

- Bags are removed vertically from the top clean section
- The plenum can be designed as a walk-in plenum so the filter media replacement and maintenance can occur in an enclosure



LVS Filter (Large Vent Square)

Side removal filters designed to handle medium to high air volumes.

- Particularly suited for applications where headroom is an issue
- Bags can be removed via an access door on the side of the unit



AV-2 and AV-4 Filters

Compact square or rectangular filter designs.

- Available in either a two bag or four bag arrangement
- Ideally suited for cleaning the air vented from rotary airlocks and surge hoppers
- Suitable for venting small volumes of displaced air

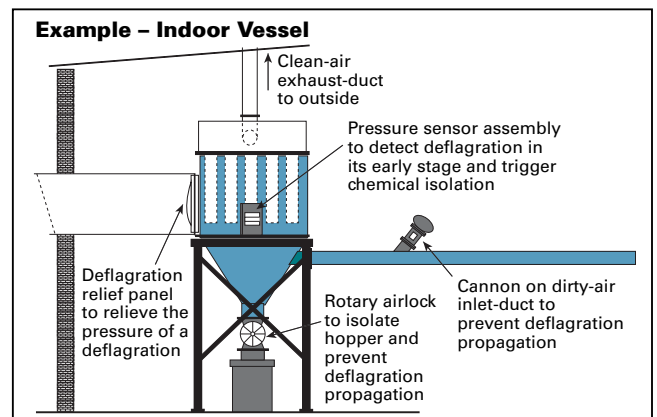
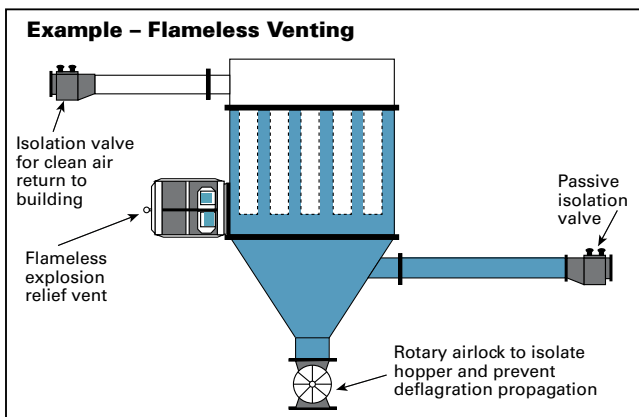
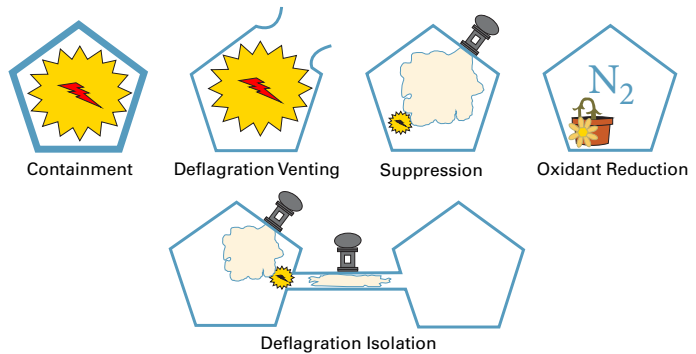


NFPA Compliance

In today's bulk handling systems, nearly all materials are combustible under the right conditions. With the right mixture of fine particles, oxygen and an ignition source an explosion could happen at any time. It is up to the end user to make sure their system is safe and compliant with the applicable NFPA standards. Coperion reviews each air filtration application with the customer to select the best explosion mitigation strategy for the application.

Protection Options

- » Explosion venting
- » Ducted venting
- » Flameless venting
- » Containment
- » Inert gas/oxygen reduction





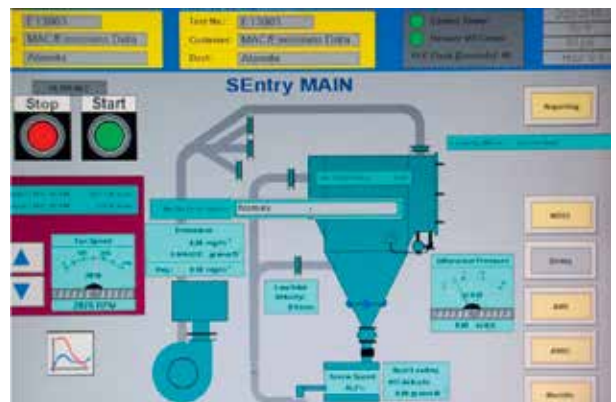
TestCenter

Perfect reliability through extensive tests on more than 600 different types of material at Coperion TestCenters

Unique to the filtration industry, the Coperion TestCenter includes a Particle Emissions Test (PET) machine that records and graphs air flow and velocity, air-to-cloth ratios, pressure differentials, inlet loading and outlet mass emissions. The machine also accurately predicts PM2.5 emissions and provides the necessary information to design the most ideal system based on the customer's requirements and application.

The key to specifying the correct type and size of filter for a particular application is experience. Coperion, utilizing the acquired technical knowledge of group members throughout the world, can call upon over 50 years of test work which has provided detailed sizing information for over 600 dusts.

Furthermore, if data for a particular dust is not listed, then Coperion can test it in its state-of-the-art Filtration TestCenter.





Coperion offers a wide range of bag and cartridge filtration products designed to remove light and heavy dust loads in multiple industries and applications.

Successful plant dust removal



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