

# CMAXX™ FAQ

## 1) What's the difference between dust collection and fume collection?

Dust and fumes are both made up of small particles. The particles in fumes are often very small, while dust particles are usually larger. Both can be handled by a CMAXX™. Words like smoke and fumes are often used for the particles produced by welding or metal cutting.

## 2) What size system do I need?

The size of the system depends on the size of your facility, the amount of air that needs to go through it, and how many points of capture you need. A system that's not big enough for your needs may result in dust accumulating in the facility or inside the ductwork, or you may run into other problems. We can help you design a system that's sized to fit your needs.

## 3) Will a CMAXX be compliant with local emissions standards?

Each CMAXX™ is designed to meet the customer's individual needs. We can work with you to make sure that your system will meet even the strictest emissions standards.

## 4) Will a CMAXX™ be compliant with NFPA standards?

A CMAXX with appropriate fire and explosion protection is NFPA compliant. The types of fire and explosion protection required will be determined by how flammable or explosive your dust is. CMAXX™ systems are equipped with industry-leading safety features.

## 5) When are cartridge filters better than bag filters?

Cartridges are superior to bags for most applications. They are easier to change and more efficient. One major advantage of cartridge filters is that the pleats allow much more media to be fit into the same space. One application where bags might be more suitable is at high temperatures. Bags can be made out of material that withstands very high temperatures.

## 6) How are the filters in a CMAXX™ cleaned?

CMAXX™ filters are cleaned by pulses of compressed air. The pulses can be on a timer or can be set to start whenever sensors detect that the filters need cleaned. This is recommended, because it saves on compressed air costs since the system only pulses when needed. It also improves filter life by reducing how often they are cleaned.

Washing a cartridge filter or taking it out of the collector to blow off dust is not recommended. This will damage the filters and cause holes that allow dust to leak through. Improved airflow after this kind of cleaning may not be because the filters are actually cleaner but because air is now flowing through holes in the filter media.

7) Why does the CMAXX™ use vertical instead of horizontal filters?

We use vertical filters because our customers prefer them and because they work better. Horizontal filters provide a surface for dust to build up and settle on top of the filter, reducing airflow and filter life. Dust pulses more efficiently off a vertical filter. Also, in a horizontal collector, dust that is pulsed off the upper filters will land on the ones below it, while in a vertical collector that dust will drop out.

8) What's the best location for placement of a dust collector?

For safety reasons as well as saving valuable indoor space, it's recommended that you place your CMAXX™ outside. This allows any fire or explosion to be vented safely away from the building. The CrownTech™ roof design and lack of external bolt holes means the CMAXX™ will stand up to all weather conditions without leaking.

9) Is the CMAXX rated for combustible dust?

The CMAXX™, when equipped with fire retardant DeltaMAXX™ filters, has been third-party tested to stop a flame front and control a deflagration. This is a key part of dealing with combustible dust safely.

10) What does IDA stand for?

IDA stands for in-line deflagration arrestor. A CMAXX™ collector with DeltaMAXX™ IDA filters will isolate a deflagration, preventing flames or sparks from continuing through the system. This makes IDA filters an important tool in controlling a fire or explosion and minimizing damage outside the collector.

11) Is my dust combustible?

Almost all organic dust, like cellulose, sugar, grain, or corn starch is combustible. Grain handling facilities deal with frequent dust explosions. Many metal dusts are combustible, including aluminum, zinc, and magnesium, and metal dust fires can be very difficult to extinguish. Many types of plastic and resin are also combustible as dust. Testing can determine how combustible your dust is. A Kst value is a measurement of how explosive a material is and is a common way of measuring combustibility.

12) How do I calculate the correct air-to-cloth ratio?

The correct ratio of air to cloth (measured in cubic feet per minute of airflow and square feet of filter media) will depend on the type of dust and how your system is collecting it. For an ambient system the ratio may be about 4 CFM/1 square foot of media, while for a source capture system it may be closer to 1.5 CFM/1 square foot of media.

#### 13) How do I calculate CFM (airflow)?

The easiest way to calculate CFM for an ambient system is to stop by our website and use our helpful airflow calculator. CFM (cubic feet per minute) is a measurement of duct area (in square feet) multiplied by the velocity of the air.

#### 14) What is the correct airflow for my system?

Required CFM for an ambient system can depend on factors such as how often the air in a room needs to be changed or how heavy the dust is that needs to be moved. Your CMAXX™ system will be designed for your individual needs.

#### 15) How long will my filters last?

This is the question everyone wants an answer to, but the answer will be different for everyone. The type of dust, the filter media, the number of hours each day that the system operates, moisture or oils in the dust, and other factors will all affect your filter life. Choosing a higher quality media such as DeltaMAXX™ nanofiber results in longer filter life because less dust becomes stuck in the material and more of it is pulsed off.

#### 16) What is differential pressure and what does it tell you?

Differential pressure is the amount of resistance to airflow through the filters. It is the difference in pressure between the dirty and clean air plenums. A gauge measures pressure on both sides of the filter, and the reading tells you how much resistance there is across the filters.

Tracking differential pressure will allow you to tell when the filters have accumulated too much dust and need to be changed. If the differential pressure is too high, air is not flowing properly through the filters. Pulse cleaning of the filters can be set to occur when the differential pressure reaches a designated level. This means that the filters are cleaned only when they need to be, which saves on compressed air, energy, and filter life.

#### 17) When should I change my filters?

You should change your filters if the differential pressure readings are too high. This means that the filter media has too much dust embedded in it to function properly. If the differential pressure is

significantly below normal, it could mean that the filters have developed holes or that there is a leak in the airflow. Attempting to remove and clean dirty filters often causes holes in them. When they are put back, the differential pressure may be lower, but this doesn't necessarily mean that the efficiency of the filters has been restored by cleaning. It often means they now have small holes in them that are letting air and dust through.

#### 18) What type of filter do I need?

We recommend DeltaMAXX™ nanofiber for most applications. If fire is a concern, these filters are available with a fire retardant coating. Filters are available with hydrophobic (moisture-resistant), oleophobic (oil-resistant), or PTFE (nonstick) material to meet the needs of specific applications. DeltaMAXX™ filters are manufactured to fit almost any dust collector.

#### 19) How do I know if I need a dust or fume collector?

If you have dust or fumes that contain materials with OSHA exposure limits, you are responsible for making sure those limits aren't exceeded. Most fumes and dust from metalworking fall in this category. If your dust is combustible, it's very important to remove it from the work area. If combustible dust is allowed to build up, even a small fire can turn into a disaster. If your dust is not combustible but still causes problems for maintenance and keeping the work area clean, a dust collector will prevent hazardous working conditions.

If you are venting dust or fumes outside, you should be aware of EPA regulations. The materials you are putting into the air may exceed EPA limits, and if there is too much visible smoke, fume, or dust coming from your facility you can be cited. Check local regulations to find out.

#### 20) Are there applications where a cartridge collector won't work?

Cartridge collectors can be designed for most applications. In some situations, such as extremely high temperatures entering the dust collector, cartridges may not be the best choice. If the dust contains coarse or fibrous materials, the system may be designed to allow larger particles to drop out to keep them from hitting the filters. Filters can also be fitted with overbags to protect them. If the air entering the collector is very humid or contains a lot of oily material, special filter media may be necessary.

Fibrous material, like larger wood dust, can cause problems for a cartridge collector, and a baghouse can sometimes be a better solution for these types of applications. Since we manufacture both the CMAXX™ cartridge collector and the BRF baghouse, we will always offer you the best fit for your needs.