

**CMAXX**  
DUST COLLECTION SYSTEM

**DELTA MAXX**  
Nanofiber Technology Filters



# IDA (In-Line Deflagration Arrester)

## CERTIFIED

The CMAXX, along with the proprietary IDA (In-Line Deflagration Arrester) DeltaMAXX filters, has been PROVEN to isolate a deflagration and stop a flame front!

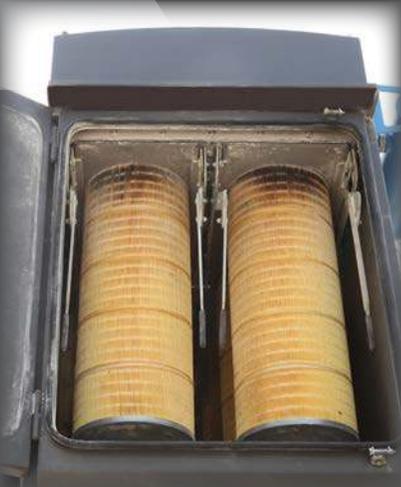


Entire flame front forced through the vent.



With cover on explosion vent, 100% of the flame front forced through the IDA DeltaMAXX Filters. No spark or flame present.

Imperial Systems, Inc. has tested the CMAXX Dust Collector with IDA DeltaMAXX filters and found that in all tests the filters could isolate a deflagration and stop a flame front. Without any trace of flame or spark transmission downstream of the IDA filters or in the clean air plenum, the results proved that the CMAXX is one of the best dust collectors in the industry!



Using a CMAXX without explosion venting, the unit's body was tested to withstand a deflagration of corn starch at 185 KST with pressures exceeding 4 PSI. The entire explosion diverted through the IDA DeltaMAXX Filters, which showed no sign of deformation. The internal cages of the filters remained in perfect shape and the seals were not deformed or melted whatsoever. All testing, proving that the CMAXX can be used as a flame front deflagration arrester when used in conjunction with IDA DeltaMAXX filters, is backed by third party testing. Reports and test results can be provided upon request.



**This system is protected by the IDA DeltaMAXX Technology. Return air is now isolated from a flame front.**

While the test was performed without explosion vents, collectors should always be vented properly in real world applications. If the CMAXX outlet is vented into the atmosphere, it should be “discharged into a safe, unrestricted, outdoor location, and the discharge shall not be obstructed” (See NFPA 69 Chapter 12). In an application where the CMAXX is vented through a pipe or duct, the duct must be designed to withstand the pressure of an explosion. These pressures can be provided at the time of engineering. Imperial Systems, Inc. can have your dust tested prior to final engineering to determine the proper venting calculations.

Ultimately, it is the customer’s responsibility to consult with their AHJ (Authorities Having Jurisdiction) and to complete a site-specific hazard analysis on the dust and application.

Imperial Systems, Inc. can provide engineering data along with the proper equipment needed for upstream isolation upon request. Per NFPA 69 Chapter 12, “A flame front arrester shall not be the only means of isolation if the design intent is to completely stop flame propagation”. The inlet of the collector needs to be addressed as well with one of the means outlined in NFPA 69 and/or 654.

## The CMAXX Advantage

Other similar systems have been tested, but all require additional after filters. Combining the CMAXX with IDA DeltaMAXX filters eliminates the need for expensive after filters that can prematurely blind, causing issues including:

- High pressure drop
- Increased filter expenses
- Additional labor to install
- Decreased headroom for indoor applications

In addition, the IDA DeltaMAXX filters work off of the same primary cleaning system that the CMAXX uses, ensuring that the filters are consistently cleaned during operation. Similar systems that use after filters do not have any means to online cleaning.

The CMAXX with IDA DeltaMAXX filters can also work with inline HEPA filters if required or a remote HEPA system. Similar systems that have been tested and require remote HEPA after filters must be mounted to the top of the collector, limiting the flexibility of the unit.

The results conform to NFPA 69 12.2.5.2 Static Dry Flame Arrester Designs and chapter 5 under performance based option, both NFPA 654 to prevent the “extension of the flame front outside the compartment or equipment of origin except where intentionally vented to a safe location” 5.2.5 (2) and NFPA 69 “to limit and risk of flame spread from vessel to vessel via interconnecting ducts” 5.2.4 (3), 5.2.5 (2).

