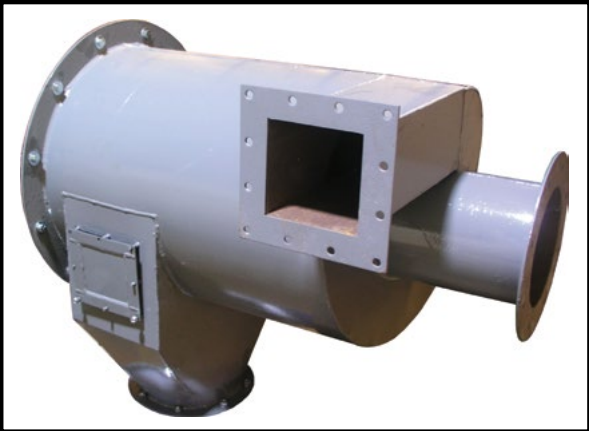


Top 5 Reasons to Use a Cyclone Before a Baghouse or Cartridge Collector



Most industrial dust collection systems use a baghouse or a cartridge collector. Whether your baghouse or cartridge collector is 50 CFM or 100,000 CFM, there are advantages to putting a cyclone before the baghouse or cartridge collector. Here are 5 advantages to utilizing a cyclone in a dust collection system.

1. Increased Removal Efficiencies.

Cyclones will increase your total dust collection efficiency when added before an existing baghouse. Cyclones remove the larger, coarser dust before the particulate reaches the baghouse. This helps to lighten the load on filters, which results in less dust in the airstream and overall higher removal efficiency for the whole system. Most cyclone dust collectors will remove 99% of dust 20 micron and larger at a specific gravity of 1 and 33% at 5 micron. If you have 100 lbs/hr of dust above 20 micron and 100 lbs/hr of dust between 5 and 20 micron, a baghouse will provide 99% efficiency with 2lbs/hr discharge to atmosphere. When a cyclone is used in tandem with the baghouse, the discharge to atmosphere is 0.68lbs/hr. Additionally, cyclones increase removal efficiencies when dealing with hygroscopic or sticky applications. A cyclone will remove most of the hygroscopic particulate before it reaches the baghouse. This helps to prevent the baghouse from getting jammed up with the particulate.

2. Longer Filter Life.

Baghouses and cartridge collectors require compressed air to knock off the dust. The use of the compressed air forces the bag to expand around its cages during high pressure bursts. The constant expansion of the bag causes it to wear out at a faster rate. In addition, when the bags and cartridges collect dust build up, they need to be replaced. The higher the dust loading of the machine, the more often the bags or cartridges will have to be cleaned or replaced. Putting a cyclone ahead of the baghouse will remove most of the larger dust from the baghouse, thereby minimizing the amount of dust coming into the baghouse or cartridge collector. If the system is equipped with a clean on demand feature, the bag cleaning mechanism will not have to fire as often and will help lengthen the bag life.



Top 5 Reasons to Use a Cyclone Before a Baghouse or Cartridge Collector

3. Recovery of Product.

If the dust being collected is valuable (such as gold or silver) or needs to be/can be reused, simply using a baghouse or cartridge collector will cause the material to get lost on the filters. A cyclone doesn't require any filters and all the recovered material will eventually be removed through the dust discharge valve. If your material can't be contaminated (such as food or color), a cyclone can be easily washed out before cross contamination occurs, whereas with cartridge collectors, the filters will need to be changed, due to the dust they retain. This is a time consuming and costly procedure. Additionally, if new filters are needed, they have to be pre-coated or they will have a lower removal efficiency until they build up a coat in the process.

4. Easy Maintenance.

Baghouses and cartridge collectors are extremely high maintenance. They require confined space entry to remove and replace the bags. Furthermore, bag replacement can be a time consuming process. Many plant operators hire outside contractors to change the bags. Due to the cost of replacing the bags and the down time required while the bags are being switched out, the final result can be very costly for the company. Cyclones, however, require very little maintenance. At most, plant engineers have to observe the pressure drop every so often, and inspect the walls of the cyclone to insure that it has not worn down from the application. By placing a cyclone in front of the baghouse or cartridge collector, the bag life can be increased by as much as 1 to 2 years, depending on the application.

5. Allows Baghouses to Operate in Difficult Applications.

Bags and cartridges are not well suited for fibrous, sticky, or hydroscopic dust. Cyclones perform in these applications and prevent the material from reaching the filters. Placing a cyclone in front of a baghouse or cartridge will help prevent time and money spent on repairing or replacing the filter, and ultimately will lengthen the life of the filter. Many applications now require the need for wet collectors which results in needing to treat the water run-off. Cyclones prevent the need for wet scrubbers and will prevent water treatment costs and time wasted on shipping the water out to be treated.



17387 Munn Road • Chagrin Falls, OH 44023

(440) 543-7400 • FAX: (440) 543-7404

800-358-7546 • www.dustcollectorhq.com