

Coffee Roaster's Process Improves with Dust Collector

A prominent coffee bean roaster was planning on building a new roasting facility in New Jersey. The head engineer contacted Aerodyne about trying to find equipment that could tackle the typical problems that occur during the roasting process and utilize as little space as possible.

When roasting coffee beans, smoke and particulates are released from the roaster during the process. The chaff (bean skins) will escape in to the exhaust air so it is imperative to capture the particulate before being vented outside. In addition, organic liquids (volatile organic compounds/VOCs) are released and can cause a burning toast scent. Specialized dust collection systems are required in order to tackle all of these problems that occur.

After sending over the specs of the application, Aerodyne concluded that the roasting facility could easily house the GPC coffee roasting system. The Aerodyne GPC Dust Collector operates differently than other dust collectors. A sloped spiral inlet directs the dirty gas stream toward a fixed ground plate and hopper of the dust collector. The ground plate forces vortex reversal to occur in a much shorter space, eliminating the need for a long, tapered body. As the dirty gas stream strikes the convex ground plate, fine particulate that has not completely made it to the dust collector walls is deflected into the hopper.



The ground plate also shields collected particulate from the forces of the vortex reversal, acting as a barrier between the separation chamber and the collection hopper. This innovative design enables a compact dust collector to operate at high efficiency, even when installed horizontally.

The GPC coffee system comes complete with the cyclone, an electrostatic precipitator (ESP) to remove the VOCs, a support stand, and a chaff collection bin. Due to the compact design of the GPC, this complete coffee roasting system takes up very little space, has low electrical costs, helps clean your exhaust gas, and makes chaff disposal clean and simple.

With the GPC's compact yet powerful design, the coffee roaster was able to achieve the necessary layout at the facility and still obtain the results they were looking for. They were most concerned about finding a system that would fit within the proposed layout. They were pleasantly surprised to find a system that not only worked in the size allotted, but one that also contained all the necessary components for the roasting process and required less power than other systems they had used in the past.