



Innovation or Gimmick?

Back in the early 80's I represented a dust collector product line. Their parent company was a leader in cartridge filters for various applications, such as engine and vehicle exhaust. After several years of research and development, the filter cartridge dust collector was introduced for fine dust filtration. The principle was to have the dust exposed to the outer pleats of cartridge where the maximum amount of surface area was located. Air was drawn through the core of the cartridge. Compared to bag filters, the cartridge provided a substantial amount of filter area in a confined space. The units provided as much filter area as a bag house and required a substantially smaller foot print. They were primarily designed for fine, dry dust. A shaker mechanism or air pulse was used to knock off any cake build up. Used properly, the cartridge filter was a major innovation to the dust collection industry. Today, there are many types of filter material and outside wrappers that can prevent cling, cake build up, and even collect mist. I applied several units to toner dust, graphite dust, glass bead dust, and lead dust, just to name a few.

Then, a few years ago, I noticed an ad for a woodworking dust collector company promoting the cartridge filter as an after filter for a cyclone. My immediate thought was, this is a misapplication. A couple months later, I noticed more ads for single stage dust collectors promoting them as a viable replacement for the upper filter bag. To my dismay, it seemed everyone jumped on the band wagon, right or wrong. At first, they were sold without a method for cleaning. I received feedback from customers that had purchased these collectors. Most said the filters were quickly getting clogged due to cake and cling. Within a short period of time, they were sold with an internal brush for cleaning. Then, came the feedback about the brushes. It appeared the cake was forced into the core filter material and clogging the pores. The replacement cost for the cartridges averaged from \$200 - \$300 a piece.

Some only lasted weeks and the best case I heard of was six months. These were woodworkers that used the collectors on a daily basis. Some guys were using compressed air to blow out the inside in order to use them. In some cases, this was done every other day.

Bag filter material offered today is substantially improved. There are 10 oz and 16 oz polyester felts with singe to avoid cling (1-5 micron range filtration), fabrics that control electrostatic build up, special surface treatments that improve performance, fabrics that extinguish sparks, and so on. The filter bag longevity with today's fabrics can be at least 5 years or more. If the air to cloth ratio and fabric is correct, I am convinced that the filter bag is substantially better than the reverse use of a filter cartridge. Certainly, those hundreds of dollars and hours of labor can be well spent elsewhere.

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