

# Preventing Downtime - Part 3

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What are the top three causes of downtime caused by a pneumatically-conveyed material handling system? Today we look at reason #3.

## **The filter and separator are under-sized**

Filters and Separators are typically the most expensive components of an air conveyed trim collection system. Many times these components end up undersized when equipment is added without proper engineering, or when a system supplier is cutting corners to win a bid.

How can you make sure that these components are sized properly when evaluating bids or system changes? Make sure you know the air-to-cloth ratio of your filter and the CFM (cubic feet per minute) rating of your separator (cyclone or screen). **The lower the air to cloth ratio, the better it will perform and the longer the filter media will last.**

The air-to-cloth ratio is calculated by dividing the CFM of air by the square feet of filter media (cloth) in the filter. Ratings vary by type of filter and by application. As a general rule, a bag house filter air-to-cloth ratio should be no more than 7.5 to 1. Reverse pulse jet cartridge filters should be between 2 and 3 to 1 while well-maintained hanging bag filters can have ratios as high as 10 to 1.

Separators all have ratings based on CFM of air. Knowing the rating of your existing or a proposed separator will help you get the most from your system.

With filters, there are many cost cutting variables which impact performance. Plug detection, hopper air blast, proper hopper angle and the cleaning mechanism design are a few. With filters, a small up-front cost reduction can impact the performance of the system and your wallet over the long run. Using a qualified design engineer and installer that you can trust is crucial to getting all the details on the table up front so you know what you are getting before the installation crew arrives.

Questions? For more information, give G.F. Puhl a call at 615.230.9500 or email us at [sales@gfpuhl.com](mailto:sales@gfpuhl.com).