



Tech Support: 800-365-1331 (5)

Q: You claim that your filter bags and cartridges can save me energy. How?

George S., maintenance manager

A: The secret is in our filter media — Donaldson[®] Torit[®] Ultra-Web[®] nanofiber technology for cartridges and Dura-Life[™] media for filter bags.

- Nanofiber technology in our cartridge filters allows for surface retention of collected particulate to reduce depth loading.
- Dura-Life with hydro-entanglement results in uniform pore spacing for good airflow and better surface retentive characteristics than glazed or singed polyester.

As a result, both of these media have a lower stabilized pressure drop when compared to standard polyester bags or cellulose cartridges — meaning that the dust collector fan doesn't need to work as hard to pull the same volume of air through the filters due to less resistance across the system. In addition, at start up, each media provides a higher permeability rate at the same delta P as needle-felted polyester, treated or not treated, and cellulose medias. Dura-Life and Ultra-Web will both provide a lower delta P throughout the entire life of the filter.

To lower energy consumption, a variable frequency drive and an airflow controller can be installed. Or, the fan can be resheaved to slow the fan down, so it draws the same volume of air through the cartridges or bags as with standard filters at a lower static pressure. This value then results in a lower brake horsepower and less energy usage.

By managing the fan speed, you will reduce energy usage due to the lower stabilized delta P realized with Dura-Life filter bags or Ultra-Web filter cartridges.

Please note that even though it is easier for air to pass through Dura-Life and Ultra-Web media, they also provide a very high level of efficiency: better surface loading of the dust makes it easier for the dust to be pulsed off during cleaning -- thus resulting in cleaner filters and lower pressure drop.

Learn more at:

- Energy Savings calculator for Ultra-Web cartridges
- Energy Savings calculator for Dura-Life filter bags
- Tech Article: How to Get Cleaner Air
- Tech Article: Advanced Baghouse Technology

If you have a dust collector question for Little Joe, send it to dustmktg@mail.donaldson.com. If your question is printed, we'll send you a free baseball cap.



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Donaldson® Torit® Airflow Controller

Our NEW **Airflow Controller** lets you automatically manage fan motor speed for your Donaldson Torit dust collector so that the fan is used only as much or as little as needed for **optimum** performance. The results are energy savings, longer filter life, and optimal collector performance.

Here's HOW it Works:

- The Controller reads the static pressure at the inlet of the dust collector and signals to the VFD to adjust fan speed accordingly.
- Components needed:
 - Control panel for the dust collector must be equipped with the Airflow Controller
 - Variable frequency drive (VFD), either in the control box or installed nearby
 - A premium efficiency motor (or inverter duty motor)

Here's WHY it Works:

- Air has mass, and to move more air, the fan on your dust collector must work harder & faster to pull the airflow demanded (measured in cubic feet of air per minute or cfm).
- Typically, when filters are new and clean, the airflow moves through the filter media at a fairly high rate. As filters load with dust, air can't move through as easily, and the fan must work a little harder to supply enough airflow.
- Most fan motors run at constant rates, meaning their speed is not adjusted for the resistance (static pressure) offered by the condition of the filters.
- When you adjust fan speed to accommodate the resistance, the fan can run slower during times of low resistance and higher only when necessary. The fan is adjusted to operate at optimum airflow for the collector.
- Many people have dampers they adjust manually. This works to an extent; the Airflow Controller/VFD combo adjusts constantly & automatically.

Payback?

Situations vary, of course, but we have found that typically, the payback on a 30 HP or larger fan is less than 2 years. **And**, many power suppliers are offering discounts & rebates for installing energy-saving devices like this – be sure to check with your local electric company!

Applicable for both cartridge collectors and baghouse collectors

- Recommended for new dust collectors.
- Can be retrofitted to existing collectors.

Call: 1-800-365-1331