

## Industrial Ventilation Energy Conservation Opportunities

Question: How can we save energy and reduce the operating cost of this system by over 50%?  
(System average is 66%) Answer: Make use of the fan laws and benefit from Airflow's solutions for significant energy savings.

$$\text{Ye 'Ol Fan Law: } HP_1/HP_2 = (RPM_1/RPM_2)^3$$

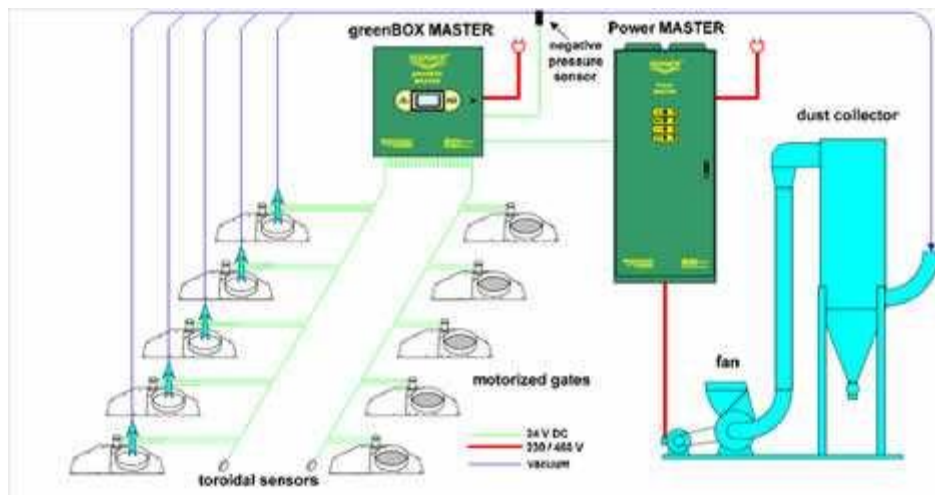
If we can find a method to cut the air flow by  $\frac{1}{2}$ , then we can operate on  $\frac{1}{8}$ <sup>th</sup> of the power.  $(\frac{1}{2})^3$



Consider the following notes about dust collection systems:

- **Most dust collection systems are installed and operate at 100% air flow.**
- **Most dust collection systems have exhaust stations that are not being used at all times.**
- **Many dust collection systems are oversized for future capacity.**
- **All dust collection systems require significant filtration systems for recirculation, or significant amounts of makeup air for pressurization control.**
- **All dust collection systems are expensive to operate**

Now consider the alternative - a demand controlled [industrial ventilation](#) exhaust system. Simply put, if there is no requirement to provide exhaust air for a device, then don't!



It's really pretty simple. It's a prepackaged system manufactured by a new supplier to Air Flow - [ECOGATE](#).

- **Automatically close the motorized blast gates on devices not in use**
- **Maintain a minimum amount of air flow so the fan stays in the stable operating range**
- **Control static pressure with a VFD so capture velocities are safely maintained**
- **Consider VFD control of the makeup air system (if there is one)**
- **Start saving energy - lots of it.**

Energy challenges are not going away. Consider the opportunity to help your customer save money. Paybacks vary from 18 months to 36 months depending on size and complexity. Systems range in size from simple high school cyclone collectors to systems with multiple dust collectors and hundreds of gates. There are thousands of collection systems in Wisconsin with the potential to be retrofitted.

And yes, ECOGATE complies with NFPA. For an article regarding NFPA compliance, click [here](#).

If you would like to learn more about the Ecogate ventilation control system and how it can benefit your customer, please contact Tom Gelin at 414-351-7744 or e-mail [tom@airflowinc.biz](mailto:tom@airflowinc.biz).

Regards,

Tom Gelin  
[Air Flow, Inc.](#)  
 (414) 351-7744 (Direct)  
[tom@airflowinc.biz](mailto:tom@airflowinc.biz)