



**Griffin
Filters**

Better Environmental Solutions by Design™

Tech Notes

Baghouse Differential Pressure

The Differential Pressure reading between the “dirty” side and the “clean” side of the baghouse can provide a great deal of information regarding how well your baghouse is working and the health of your filters.

It is always a good idea to monitor differential pressure and develop a baseline differential profile for your baghouse. Future readings within the baseline pressure reading profile will be a good indication the baghouse is operating properly.

The differential pressure readings are also useful in monitoring the condition of the filters. As the differential pressure rises above the clean filter baseline after a cleaning, you know the filter material is starting to become clogged with dust. As the pressure rises to 8” WG or higher, the filters are considered blinded and it is time to replace the bags.

The differential pressure can also indicate a catastrophic filter failure or the presence of worn and torn filters. If differential pressure readings drop below the clean filter baseline pressure reading and starts heading towards Zero, you can suspect there is a system failure. It is time to check for a filter which has fallen out of place or for filters with holes and tears or a complete blowout.

At Griffin Filters, we recommend operating between 2” WG and 6” WG. This considered the normal operating range.

With new filters in the baghouse, reading can be less than 2” WG but once conditioned and a dust cake is formed, the readings on a clean bag should be around 2” WG. Dust cake is a good thing. A filter with a good dust cake is more efficient in capturing dust than a brand new clean filter. The layer of dust prevents new dust entering the baghouse from migrating through the filter material and out of the baghouse on the “clean” side.

At 6” WG, Griffin Filters recommends running the cleaning cycle. Continuing to operate the baghouse at 6” WG and higher forces dust into the filter material. This causes the bags to “blind-over”. The filter material becomes clogged with dust and no longer allows air to pass through the filter material properly.

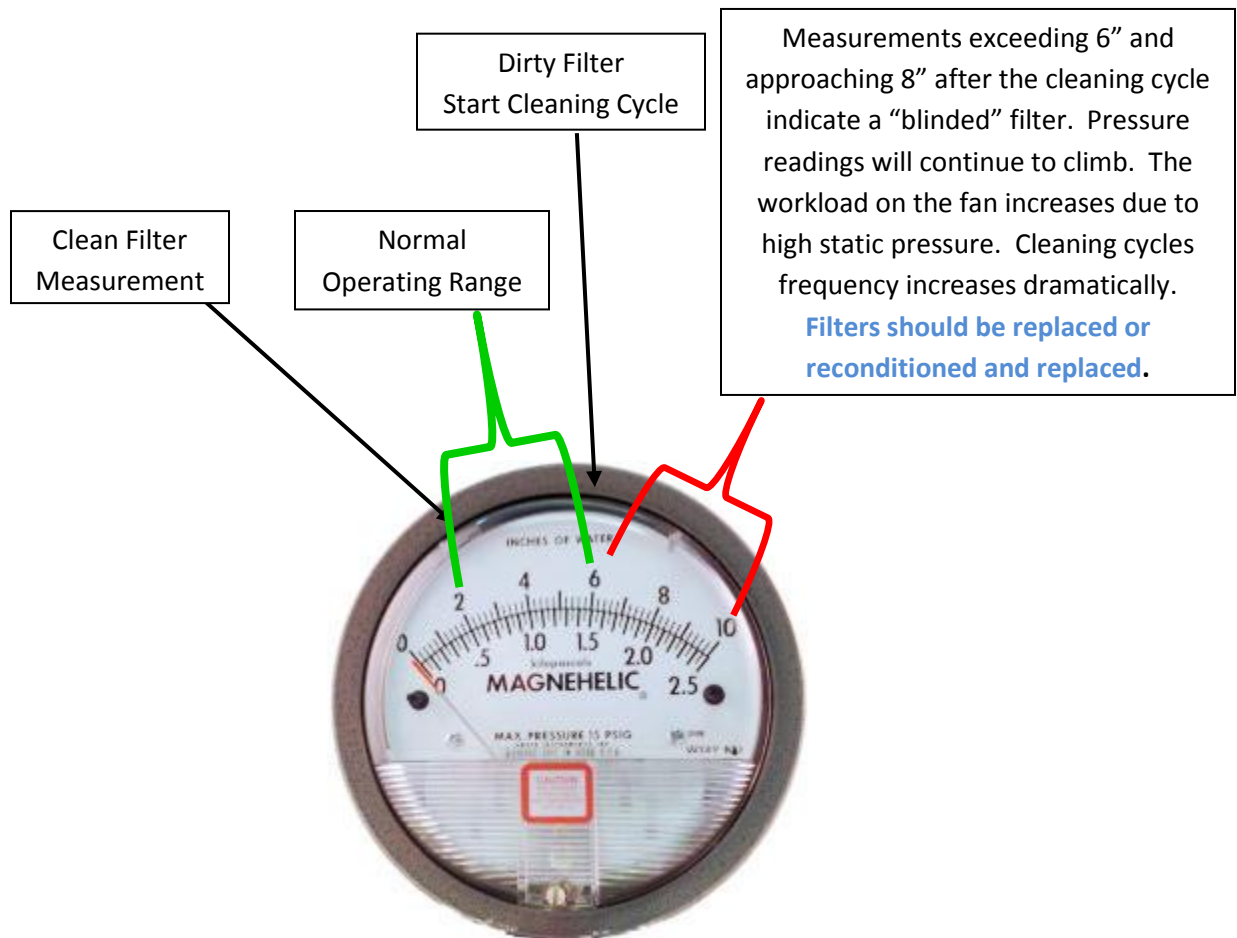
Monitoring the differential pressure after a cleaning is important. Pressure readings that rise above 6” and towards 8” WG after a cleaning is a strong indication that the filters are reaching the end of their useful life and the baghouse will require maintenance in terms of filter replacement or filter reconditioning. At differential pressure reading between 6” and 8” WG, your system will be running hard. Energy consumption will go up as the fan will be working harder to pull air through the high resistance caused by the blinded filters and the frequency of the cleaning cycles will increase to the

point of continuous cleaning. Sooner, the better applies here. The sooner the filters are replaced when the differential pressure of the system is at 6" WG or higher, the better it is for protecting your baghouse from additional component failure.

DIFFERENTIAL PRESSURE

A magnehelic gauge is provided to monitor the static differential pressure across the bags.

- <2" W.G.new bags
- 2"- 6" W.G. normal range
- >6" W.G.dirty bags - (Ideal time to replace filters)
- >8" W.G.blinded bags - time to recondition or replace (Must replace filters as damage to system components can occur)



Note: Differential pressure will vary with application. During the initial start-up, the differential pressure could be lower than normal, as the filter media is new and quite porous. The high initial porosity could also be evidenced by visual emissions at the exhaust stack until dust cake is formed on the bags.

Application Engineering

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