



Simple technology, so many benefits

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There is a great deal of talk about energy efficiency, retrofitting, retrocommissioning, Local Law 87 and a myriad of terms people are bandying around. It can be overwhelming. I have selected one simple thing you can do without having a consultant or having to replace such things as your boiler or HVAC system which results in a number of positive outcomes. This requires no replacement of existing equipment that is otherwise functioning well.

Your HVAC system is probably not operating at its initial specified "as built" performance level, meaning it is not doing the job you installed it to do the way it is supposed to. Thus the operation of this unit is costing you more than necessary. It is a large part of the building's energy usage so you are not only paying a lot for your electricity but are wasting it as well. The DOE says, "The HVAC system accounts for 40-60% of the energy used in U.S. commercial and residential buildings. This represents an opportunity for energy savings using proven technologies and design concepts." Your HVAC is not doing these things because it is old or has some years on it. Its performance does not need to degrade with time. You simply need to be aware of what is slowing it down and what it needs to perk it up.

That is the secret. An air handler's cooling coil is a dark and moist area making it a perfect place for mold to grow and accumulate creating a thick layer on the coil almost as if the fins of the coil have a sweater on them. Therefore they do not get as cold as they should and the path of the cold air is impeded. The thicker the "sweater" the harder the fan blowing the air through the system has to work using more electricity, and the longer your air handler cycles are to achieve the desired temperature. If you could get rid of that "sweater" with the disgusting mold and dirt clinging to the fins, the fans would not have to work as hard, and the cycles of the handler would be shortened all contributing to a reduction of electricity required to run that system.

The real shock is how little is required to accomplish this and how minimal the outlay. Knowledge is power and savings in this case.

A simple properly sized installation of good UV lamps will accomplish this. They are placed on the downstream side of the coil. Within months the system will be operating close to or at its initial efficiency rating. There are added bonuses as well. If you were cleaning your coils now, you will no longer have the expense of the manpower, chemicals, and downtime of this process. The mold will be eliminated and none of the spores can break off and pass through the ducts to the air stream where you and the occupants of the building were having a daily dose of mold spores. This will no longer be possible. Employees with allergies, asthma and other respiratory ailments may be relieved of symptoms with the elimination of this "sweater." The air quality in the building will be improved as many of the viruses and other pathogens that get recirculated through the air handler will also be incapacitated by the UV dose.

If you have not cleaned your air handlers or use chemicals to clean them, consider the alternative.

You owe it to yourself to check out another possible solution you never imagined now that you know the secret. An article in the ASHRAE Journal authored by Ross Montgomery, PE entitled Study Verifies Coil Cleaning Saves Energy revealed a \$40,000 a year savings from just one air handling system in 1500 Broadway a midtown N.Y.C. office building. That was just one air handling system and that was about seven years ago. With rates up, the savings are even greater.

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