



# All Systems Inc

## Fall is in the Air!

### Energy Saving Tips: Commercial Heating and Air Conditioning (HVAC)

- "Tune-up" your heating, ventilating and air-conditioning (HVAC) system with an annual maintenance contract. Even a new ENERGY STAR qualified HVAC system, like a new car, will decline in performance without regular maintenance. A contract automatically ensures that your HVAC contractor will provide "pre-season" tune-ups before each cooling and heating season. You save energy and money, and your system may last years longer with minimal costs yearly maintenance fees.
- Regularly change (or clean if reusable) HVAC filters every month during peak cooling or heating season. New filters usually only cost a few dollars. Dirty filters cost more to use, overwork the equipment, and result in lower indoor air quality.
- Install an ENERGY STAR qualified programmable thermostat to automate your HVAC system. This solid-state, electronic device optimizes HVAC operation "24/7" based on your schedule, and can be "overridden" as needed for unscheduled events. So consumers and staff always enter a comfortable facility, this "smart thermostat" can turn on the HVAC one hour before arrival instead of heating or cooling unoccupied space.
- Control direct sun through windows depending on the season and local climate. During cooling season, block direct heat gain from the sun shining through glass on the east and especially west sides of the facility. Depending on your facility, options such as "solar screens," "solar films," awnings, and vegetation can help. Over time, trees can attractively shade the facility, and help clean the air. Interior curtains or drapes can help, but it's best to prevent the summer heat from getting past the glass and inside. During heating season, with the sun low in the South, unobstructed southern windows can contribute solar heat gain during the day.

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## Fall is in the Air (cont)

- Use fans. Comfort is a function of temperature, humidity, and air movement. Moving air can make a somewhat higher temperature and/or humidity feel comfortable. Fans can help delay or reduce the need for air conditioning, and a temperature setting of only 3 to 5 degrees higher can feel as comfortable with fans. Each degree of higher temperature can save about 3% on cooling costs. When the temperature outside is more comfortable than inside, a "box fan" in the window, or large "whole facility" fan in the attic can push air out of the facility and pull in comfortable outside air. Fans can improve comfort and save energy year round.
- Plug leaks with weather stripping and caulking. Caulking and weather stripping let you manage your ventilation, which is the deliberate controlled exchange of stuffy inside air for fresher outdoor air. To learn more about indoor air quality in your facility visit [EPA's Indoor Air Quality](#).

*Fall is the time of year to service your businesses HVAC equipment. Call us today to set up an appointment! 770-886-9903*

All Systems Inc.



## Keeping Your Company's Costs Down

As the weather cools down and the leaves begin to change, now is the time to get a professional commercial energy audit or follow some do-it-yourself checkpoints to ensure your HVAC system does not leave you out in the cold this winter. Since about half of the energy used in your business goes towards heating and cooling, evaluating your system prior to the winter months could save you money in the long run.

### Top 3 tips to save money on your HVAC system:

**Change your air filter regularly:** Air filters need to be changed more frequently during winter and summer when the HVAC system is working the hardest. At a minimum filters should be changed every 3 months. However, if it looks dirty then change it. Dirty filters slow down air flow and waste energy as the system works harder to get air through the filter.

**Install a programmable thermostat:** Using a programmable thermostat can save a fair amount of money per year in energy costs. With various types of programmable thermostats on the market be sure to find out which one is right for your business.

**Seal your heating and cooling ducts:** Ducts move air from furnaces, central air conditioners, or heat pumps to living spaces. If not sealed properly, these ducts will waste a huge amount of energy as they transport air through the space. Sealing and insulating your heating and cooling ducts can make your system run more efficiently and drastically reduce leaks.

Whether you're looking to get an energy audit, or simply a general "tune up", Fall is the time to make sure everyone's HVAC system is ready for the winter months.



## About Us:

All Systems, Inc. is a family owned and operated business that was established in 1976 and incorporated in 1980 by the owners of our company, Tom Crawford and Tommy Johnson. Both hold unrestricted HVAC licenses, and continue to run the company with the same devotion and loyalty to their customers as the day they opened the doors.

All Systems' pledge to our customers continues to be that of unparalleled customer service, while providing premium services at fair prices. Our philosophy and goal has always been to establish a long term, trusting relationship with our customers, by giving them continued quality work at prices they can afford AND that are not overinflated. Our Service Technicians are not paid commission which eliminates the replacement and repairs so many HVAC companies charge and that are not necessary. With All Systems, you can feel safe and protected, as we are bonded and fully insured.

## HVAC Fun Facts!

- Seventy percent of installed systems suffer from inadequate airflow. Improper airflow can result in equipment failure, high energy bills and poor comfort.
- Improper refrigerant charging can lower efficiency by up to 20%.
- Proper HVAC equipment size selection is imperative. Oversized equipment will increase your costs and reduce comfort.
- Building operation and maintenance programs specifically designed to enhance operating efficiency of HVAC and lighting systems can reduce energy bills by 20% to 50% without significant capital investment.



Coupon Corner

SAVE \$50.00!

off of your  
Estimated Price  
of Furnace  
Replacement!



## All Systems Inc

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*Here When You Need Us Most...*

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## 10 Simple HVAC Coil Facts

One With all the types and sizes available, replacing a HVAC coil can be intimidating. Keep in mind that 95% of the overall HVAC coil cost is the finned surface area, number of rows and fins per inch. Casing dimensions, coil depth, connection sizes and header sizes only account for 5% of the overall cost.

1. If you eliminated the fins and only used the tubes, you would only get about 30% of the performance compared to the same HVAC coils with fins. The fins impact heat transfer much more than the tubes.
2. Because steam is erosive, steam coils are often constructed differently than hot water coils. Water and steam coils cannot always be used interchangeably. Some duct booster coils can be used with hot water or steam. Be aware that the steam should NOT be modulated through this type of coil if it will be exposed to below freezing air temperatures. As the valve modulates down, there is not enough pressure to push the condensate through this type of coil. If you are using steam in a hot water booster coil, you should choose 2 position control (on/off). Modulating type steam coils, aka "non-freeze" steam coils should not be used with hot water.
3. The industry has arbitrarily named 1 and 2 row coils "hot water HVAC coils" and 3 - 10 row coils "chilled water HVAC coils". Hot water coils and chilled water coils are constructed the same. Hot water temperatures are much higher than the air temperature, resulting in a coil with fewer rows. Chilled water temperatures are very close to the air temperature, resulting in a much deeper coil.
4. Chilled water and DX (direct expansion) HVAC coils are identical except for the supply and return arrangement. You can't feed refrigerant through a M.P.T. (male pipe thread) connection and header arrangement. You have to replace the standard hydronic feed with a refrigerant distributor. The "spaghetti tubing" connected to the distributor feeds as many tubes as you want it to feed. Beyond that, chilled water and DX HVAC coils are identical.
5. Fins have corrugations that run the entire height and depth of each fin. Fins are not flat. Corrugations promote turbulence, increasing the surface area and coil efficiency. Corrugations also help in preventing moisture carryover which is very common with chilled water HVAC coils running at face velocities higher than 550 FPM.
6. When you look at HVAC coils, you can see that the fins are rippled. This is another way to mix up the air, causing more turbulence which creates more heat transfer, increasing coil efficiency.
7. Most HVAC coils last 15-20 years. HVAC coils can last as long as 30 years if they are properly maintained. Proper maintenance includes regular cleaning on the airside, and proper treatment of the fluid passing through the tubes.
8. 5/8" tube chilled water coils use more tubes per row than 1/2" tube chilled water coils. The 1/2" tube coils have more finned surface area, but the thicker 5/8" tubes take up more surface area. The performance of the two different HVAC coils is similar. People often choose the 5/8" tube coil due to its slightly lower water pressure drop and thicker tube wall thickness.
9. Since you pay for copper by the pound, you will pay more for a 5/8" tube coil than a 1/2" tube coil. This is because the wall thickness on a 5/8" tube coil is 10 - 15% more than a comparable 1/2" tube coil. Even though the performance is the same, you will pay more for a 5/8" tube coil. One could claim that a 5/8" tube coil will outlast a 1/2" tube coil.
10. 95% of the overall cost of HVAC coils is the finned surface area, number of rows and fins per inch. Casing dimensions, coil depth, connection sizes and header sizes only account for 5% of the overall cost. Changing the materials can have a huge impact on the overall cost. Stainless steel casings and copper fins are very common in corrosive environments. The material costs are higher, and the heat transfer properties of different materials will affect the size of the coil. If you change the fins to copper, you will lose about 15% of the capacity, which means you will need a bigger coil.