HOME AND GARDEN COLUMN

AIR CONDITIONING

Could you feel the change in the weather this past weekend? I noticed a nip in the air and it really feels like fall is finally here. If you are sick of high summer electric bills, consider upgrading your air conditioning system now. The weather is a bit milder and generally October is drier, so it will be a lot more tolerable indoors if your system is out of commission for a few days.

Inefficient older units can hog the energy and run your rates sky high. Heating and cooling costs for electricity are the bulk of electric bills for residential customers and may account for up to 50% of the total electric cost. Consider replacement if your electric air conditioner or heat pump is more than 10 years old.

If your unit is still working, you have some time to shop. Unfortunately, a friend recently had to replace a unit and was unprepared to make an educated decision regarding what was the best option for his house. Hopefully, this information will help you be better informed when you select your next unit.

The air handler, the compressor, filter, ductwork, and thermostat are all parts of the heating, ventilation and air conditioning or HVAC system. You need to match and properly size the air handler and compressor for the cooling and heating needs, called the load, of the building. Direction and orientation of the windows to the sun, window size, square footage of conditioned space and amount of insulation are some of the factors that determine how big the system needs to be.

The selling of air conditioning is by tons of cooling as well as the seasonal energy efficiency rating or SEER. Bigger is not better. In fact, if you are replacing a unit and making energy efficient upgrades such as adding attic insulation or installing energy efficient windows, you will likely be able to downsize the tons and save money on the replacement equipment.

Whether buying a unit for your new home or remodeling, have your HVAC contractor do a manual J calculation that considers all those things. Simply replacing the size you had is not recommended.

Right sizing the unit is critical. If the system is too big, the air handler does not come on often enough to dehumidify the indoor air. The air will get cool, then warm up again and you may feel uncomfortable from the moist air. If the system is too small, not enough tons, the unit runs longer and still does not keep the home cool or remove adequate humidity from the air. A properly sized, efficient system will run a long time each hour, but will save money on your electric bill compared to less efficient units.

Properly designed energy efficient units, based on the cooling load will maintain comfortable temperature as well as humidity. Variable speed air handlers use fans that run between cooling cycles to allow the unit to continue to remove moisture from the air. Look for the SEER rating.

Florida Building code currently requires a minimum Seasonal Energy Efficiency Rating of SEER 13 but some units may be SEER 17 or higher. The higher the number, the more efficient the unit is. High SEER units are not automatically also good at dehumidification. In Florida, dehumidification is critical so it is important also to look at the latent load or dehumidification potential for the system.

The Sensible Heat Ratio (SHR) describes the ability of the cooling system to remove humidity from the conditioned air. The number means the percent of energy that is used for cooling compared to dehumidifying. Look for equipment that has a SHR of 0.7 or less. This means that no more than 70 percent of the energy used is
for cooling and at least 30 percent is for removing moisture from the air. You will need to ask the contractor to provide you with this in writing from the manufacturer as it is generally not on the label.

Heat pump units also have a Heating System Performance Factor or HSPF rating. The higher the number, the more efficient the heat pump. The minimum allowed by the newest Florida Building Code is 7.7.

Know the numbers before you sign on the bottom line for a new HVAC system. What you don’t know could cost you for years.

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Enjoy Mother Nature’s air conditioning and the mild weather and join me on an interpretive Woods Walk. The next one is scheduled for Friday, October 12 at Lake Lizzie Preserve east of St. Cloud. Call Cindy at 321-697-3000 to reserve a space and get more details.

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