

Improve A/C Efficiency and Lower Energy Costs

by Kay Rettich

You don't need to see statistics or graphs to know the cost of electricity is going up. As much as I try to cut down on my use of electricity, I still seem to be paying more every year. Every spring I vow to cut back on the amount of time I run the air conditioner in my home, but by August, the AC is running all the time and my electric bills show the rising costs for my comfort.

I've looked at the options for more efficient AC systems. Higher SEER units with programmable variable-speed fans take less energy to operate, but the cost of these deluxe systems is out of my budget. Besides why would I change out my existing system when it still works just fine? What I want is an affordable way to make my existing AC system more efficient.

New Approach to Efficiency

QwikSEER+ WattSaver™ is an inexpensive new product that can improve the efficiency of my air conditioner by changing the way my fixed-speed fan works. Even though my blower fan was installed to run at a fixed speed, most fixed-speed fan motors in residential air conditioning systems have three or more speed taps. These speed taps are connection points for electrical power and determine the blower speed.

When installing a residential air conditioning system, the HVAC technician selects the blower speed by connecting the power input to one of the speed taps. Unfortunately, the ideal blower speed selection for a given system could be different for different installations and varies with environmental conditions, such as outdoor air temperature, indoor air temperature, and indoor humidity.

This is where QwikSEER+ WattSaver™ improves the performance of a system. QwikSEER+ uses three of the speed taps on the fan motor instead of just one. When the AC system starts, the electronic control board determines the most efficient fan speed based on the indoor and outdoor conditions, and automatically readjusts fan speed as indoor and outdoor conditions change during operation. The controller also adjusts for installation effects, such as the configuration of the supply ducts and the return air ducts, the type of blower motor, and the type and cleanliness of the air filter.

By varying the airflow of the blower motor to better match the need, WattSaver provides the best balance of air flow for the conditions in the home. This reduces the total power draw of the system, enhances system performance and provides energy savings.

Save Money, Breathe Easier

A more efficient air conditioner saves money. Independent laboratory tests conducted by Intertek (Plano, Texas) showed that a residential SEER 14 air conditioner with QwikSEER+ installed will typically save homeowners 10% annually on their operating costs, even when they own a high-efficiency SEER 14 unit. Deluxe AC systems can also provide these savings, possibly even more, but typically also cost thousands more.

The lower airflow rates of an AC unit with QwikSEER+ installed also improves humidity removal. Indoor air quality is a vital factor in maintaining a healthy life. By controlling the relative humidity in a home,

biological growth can be minimized. According to the EPA, mold grows best in warm temperatures (77°F to 86°F) when the relative humidity is above 60%.

When the Intertek lab tested the same residential SEER 14 air conditioner for its ability to remove humidity, the humidity removal rates improved by up to 566%. The effectiveness of QwikSEER+ at increasing the humidity removal rate could significantly inhibit the formation of mold, improving air quality and comfort.

Quick Installation

Calvin, my HVAC technician, installed a prototype of the product in his home in October 2012. After experiencing the results of QwikSEER+ in his own home, he plans to offer this unit to all his customers with a 30-day free trial period. If the homeowner doesn't see a savings in electric costs, he'll take the unit back out. "No one will ask me to uninstall the unit after they feel the effects for one month," he said.

I agree.