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of Quality Sheet  
Metal Products!

# High HVAC Energy Cost Robbing You?

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Air Flow Makes A  
Big Difference!



## Homeowners Want Performance and IAQ

**Q-** Does "Air Flow" really make a difference in HVAC system performance?

**A-** Absolutely! Equipment SEER is based on the manufacturer's efficiency rating with no resistance factored in for the duct system. A bad duct system causes the equipment to work harder and less efficiently.

**Q-** If a duct installation passes inspection, is it a good duct system?

**A-** Not necessarily. Most building codes fail to address air flow. A duct system with terrible air flow can pass code inspection in many cities as long as it is properly sealed and insulated. Too many contractors assume that if they install duct as their competitors do and the job passes inspection, it must be a good duct system. It is important to realize that when we depend on code inspections to set the benchmark for good and bad, we are building to the lowest level allowed rather than the highest possible quality.

**Higher Friction Loss = Less CFM (volume)**

When less air is delivered, the system has to run longer to achieve the desired comfort level.

Airflow problems have plagued the HVAC industry for years. Unfortunately some contractor's remedy for poor airflow has been to oversized equipment rather than to address the root problem. Design tools such as the friction loss tables in ACCA Manual "D" and "Ductulators" are used to size ducts to deliver the desired amount of air, but these design tools assume certain installation standards some of which date back to the 1950s. As the quality of modern duct installations has declined, the design tools don't always correlate with installed duct performance.

Of the three major types of duct material, sheet metal duct still provides the most durable, efficient and clean air distribution system. In addition to offering superior air flow, the easiest way to install sheet metal duct is in a straight line, so installers tend to limit the number of turns and to plan them such that each run can go as far as possible before changing directions. The result is a galvanized metal duct system with the fewest number of turns which limits friction losses and increases efficiency.

Zinc in the galvanized coating of sheet metal duct actually kills mold and gives excellent protection against all types of organic growth. This can be very beneficial as we have discovered in recent years.

Duct systems do need cleaning occasionally and the hard, smooth surface of sheet metal can be cleaned and maintained far better than non-metallic duct materials.

Regardless of the materials used, proper duct sizing and installation are critical to system performance and therefore energy efficiency. As the demand for more energy efficient homes increases, there will be excellent opportunities for HVAC contractors who offer higher levels of products and services and this usually equates to higher profits

