



Your expertise can mean reduced utility bills for customers

For customers, purchasing an energy efficient air conditioning unit is the first step towards maintaining a comfortable environment during the hot summer months while reducing energy consumption in a home or business. However, capitalizing on the benefits of high efficiency equipment is only made possible through proper sizing and installation of the system. Focus on Energy's Efficient Heating & Cooling Initiative recognizes that as an HVAC contractor, you have the ability to bring maximum efficiency and savings to customers by providing peak performance of the equipment you install.

To maximize the efficiency of a central air conditioning unit, be sure to choose the correct size unit for the intended space. Units that are too large for the square footage will cost more to run both upfront and throughout the equipment's life. They will also cycle on and off more frequently, lessening peak performance and resulting in temperature fluctuation and poor dehumidification. For the utmost accuracy in sizing, consider using a load calculation such as *Manual J* provided by the Air Conditioning Contractors of America.

Airflow is another important component of the performance of an air conditioning unit. Proper airflow ensures the air conditioner will cool a home as evenly as possible and keep humidity under control. If airflow is too high, duct leakage increases

and the temperature at the register is not sufficient for optimal home comfort. If airflow is too low, distribution efficiency drops and accelerates the wear on system components leading to premature failure. In addition, keeping the temperature of the air leaving and

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returning to the air conditioner within three degrees of the manufacturer's recommended split will reduce the amount of energy consumed during operation and prevent the system from being overloaded.

An air conditioner's ability to operate at its greatest efficiency is directly dependent upon the amount of refrigerant it contains. According to the Environmental Protection Agency, recent field studies suggest approximately 75 percent of installed cooling equipment may have incorrect refrigerant levels. The level of refrigerant charge needed is unique to each system and is determined by every piece of equipment within that unique system, including the outdoor compressor, the indoor evaporator coil and the refrigeration lines between them. Correct refrigerant charge will protect

the compressor from possible damage, ensure efficiency and boost cooling performance.

Mismatched coils can significantly hinder an air conditioner's performance, reducing its SEER level to the point it may no longer meet the minimum required by law. Mismatched coils can also result in a lower comfort level, frequent breakdowns and a short system life. The Efficient Heating & Cooling Initiative recommends consulting the system's manufacturer or other reliable sources like the Air Conditioning & Refrigeration Institute (ARI) to find the best coil combinations for the specific unit. It's also important to replace both the evaporator and condenser coils at the same time. Failing to do so will result in the performance issues previously mentioned.

For more information on how you can provide optimal performance and the energy and money saving benefits of high efficiency cooling equipment or to become one of Focus on Energy's Efficient Heating & Cooling Initiative's partnering contractors, call 800.762.7077, or visit focusonenergy.com.

