

About ENERGY STAR

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping us all save money and protect the environment through energy efficient products and practices.

For the Home

Energy efficient choices can save families about a third on their energy bill with similar savings of greenhouse gas emissions, without sacrificing features, style or comfort. ENERGY STAR helps you make the energy efficient choice.

If looking for new household products, look for ones that have earned the ENERGY STAR. They meet strict energy efficiency guidelines set by the EPA and US Department of Energy.

If looking for a new home, look for one that has earned the ENERGY STAR.

If looking to make larger improvements to your home, EPA offers tools and resources to help you plan and undertake projects to reduce your energy bills and improve home comfort.

Question

Do Power Factor Correction Devices (sometimes called Amp Reduction Units or KVAR) really save money? Can they earn the ENERGY STAR label?

Answer

ENERGY STAR does not qualify any Power Factor Correction Devices. Please send us an email at logomisuse@energystar.gov if you see one that claims to be ENERGY STAR certified.

Power Factor Correction Devices claim to reduce residential energy bills and to prolong the productive life cycles of motors and appliances by reducing the reactive power (kVAR) that is needed from the electric utility.

We have not seen any data that proves these types of products for residential use accomplish what they claim. Power factor correction devices improve power quality but do not generally improve energy efficiency (meaning they won't reduce your energy bill). There are several reasons why their energy efficiency claims could be exaggerated. First, residential customers are not charged for KVA-hour usage, but by kilowatt-hour usage. This means that any savings in energy demand will not directly result in lowering a residential user's utility bill. Second, the only potential for real power savings would occur if the product were only put in the circuit while a reactive load (such as a motor) were running, and taken out of the circuit when the motor is not running. This is impractical, given that there are several motors in a typical home that can come on at any time (refrigerator, air conditioner, HVAC blower, vacuum cleaner, etc.), but the unit itself is intended for permanent, unattended connection near the house breaker panel.

For commercial facilities, power factor correction will rarely be cost-effective based on energy savings alone. The bulk of cost savings power factor correction can offer is in the form of avoided utility charges for low power factor. Energy savings are usually below 1% and always below 3% of load, the higher percentage occurring where motors are a large fraction of the overall load of a facility. Energy savings alone do not make an installation cost effective.