

KVAR ***Energy Savings, Inc.***



***Reducing Costs
by Increasing
Efficiencies***

***Rapid return
on investment***

***Positive
environmental
impact***

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Our collective Energy Challenge

To reduce your 'Energy Consumption'

Your energy costs are increasing ; Demand for electricity is expected to increase over the next ten years but capacity will not increase in line with demand

Electrical supply costs will increase

Businesses will be penalized for inefficient equipment

To become 'A Carbon Natural Business'

Carbon emission charges are already in place and will become increasingly harsh over the coming years,

To be 'Environmentally Friendly'

Companies are facing growing pressure to demonstrate they are taking the environment seriously.

Demonstrating that your business has taken steps to reduce its carbon footprint and energy consumption & Waste disposal will be critical not only in business overheads but in business PR.



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Your Power Inefficiency

Inductive loads

An inductive load is any equipment (i.e. motors, pumps, heaters etc...) using an electromagnetic field to operate.

Within business today your inductive loads can be your main cause of:-

- Energy inefficiency
- Wasted energy consumption
- Increased carbon footprint

This reduces your ability to be a 'Carbon Neutral Business'

Types of inductive load

The majority of inductive loads are AC motors however, inductive loads are also found in various types of ;

- Most transformers
- Florescent lighting ballast
- Heaters



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The KVAR EC

What is the KVAR EC?

The KVAR EC is a product designed to increase the efficiency of an inductive load by locally controlling delivery of the necessary reactive power so that the value of the current and consequently the energy flowing through the upstream network can be reduced

What does this mean?

- The Inductive load characteristics are unchanged
- The infrastructures characteristics from the incoming meter back to the KVAR EC are positively altered to increase efficiency

•What can this do for you?

- Better utilization of electrical machines
- Better utilization of electrical infrastructure
- Reduction of electrical losses Reduction of Voltage drops
- Reduction of carbon emission Reduction of electricity costs
- Increased motor life Reduction in penalty charges and fines



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Why the **KVAR EC** ?

Our clever box

By attaching the Sizing unit 'our clever box' to the inductive load terminals and carrying out a short simple optimisation process, we are able to select a custom built **KVAR EC** to suit each individual installation in a speedy and cost effective manner.

The **KVAR EC**

The **KVAR EC** is a custom built unit with no moving parts therefore failure rates are extremely low, and it is easily installed adjacent to the inductive load.

Health & Safety

The **KVAR EC** is wired in parallel therefore, this will not effect the normal working of the inductive load in the unlikely event failure occurs

Our Guarantee

We are able to guarantee the figures and savings identified on our quotation following our sizing survey.

We are able to provide a product guarantee for 5 years



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The Energy Savings with the **KVAR EC** Product Line

The patented diagnostic device & methodology determines, to an exact science, how much capacitance is required to optimise each inductive load to maximum efficiency

Optimizing is precisely accomplished on each inductive load in minutes

There are over 650 pre-engineered products in the **KVAR EC** range, all assembled on a modular template

Installation is fast, simple and sized (optimised) to the specific unit

Power (kWH) savings are immediate and average around 10% but range from 6 % to a impressive 25%

Return on investment is rapid, in most case within 24 months



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Electricity in relation to inductive loads 101?

By reducing current flow the $I^2 R$ losses within the entire electrical installation are greatly reduced.

Electric Energy is measured by two components:

Active Power, which produces work, measured in KW (1000 Watts)

Reactive Power, which is needed to generate the magnetic fields required for operation of inductive electrical equipment, but performs no useful work, measured in KVAR (1000 Volt-Amperes Reactance)

Apparent Power is measured in KVA (1000 Volt-Amperes)

The ratio of Active Power to Apparent Power is called Power Factor. Optimise the Power Factor to close to 1.0 (unity) by installing capacitor assemblies at or near the inductive electrical equipment. These capacitor assemblies supply the reactive power needed by the inductive electrical equipment, thereby replacing the reactive power previously supplied by your utility companies.

This has a number of benefits:-



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Our Technology delivers!

Benefit One

Reduced Power Losses in Distribution Systems

Because the reactive current required by the inductive equipment is now being provided by the **KVAR EC**, the current flowing throughout the distribution system is significantly reduced. Losses in that electrical distribution system are proportional to the square of the current flowing through that system (I^2R) and are therefore even more significantly reduced. The popular misconception is that these savings are minimal, but this is not always the reality.

Benefit Two

Improved Voltage Regulation Due to Reduced Line Voltage Drop

This can result in more efficient performance of motors meaning less energy turned into heat in the windings which means cooler running motors which last longer and require less maintenance.



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Our Technology delivers contd....

Benefit Three

Reduced Demand Charge

It is common for your utility company to apply a charge to compensate them for the capital investment they have had to make to serve the facility's peak load. Improving power factor to close to 1.0 will reduce this peak load and result in further cost savings.

The installation of the **KVAR EC** will provide a combination of these benefits resulting in a reduction of energy consumption. Typically reduction equates to a minimum of 6% to a impressive 25% of existing usage , with many testimonials available to validate these facts.



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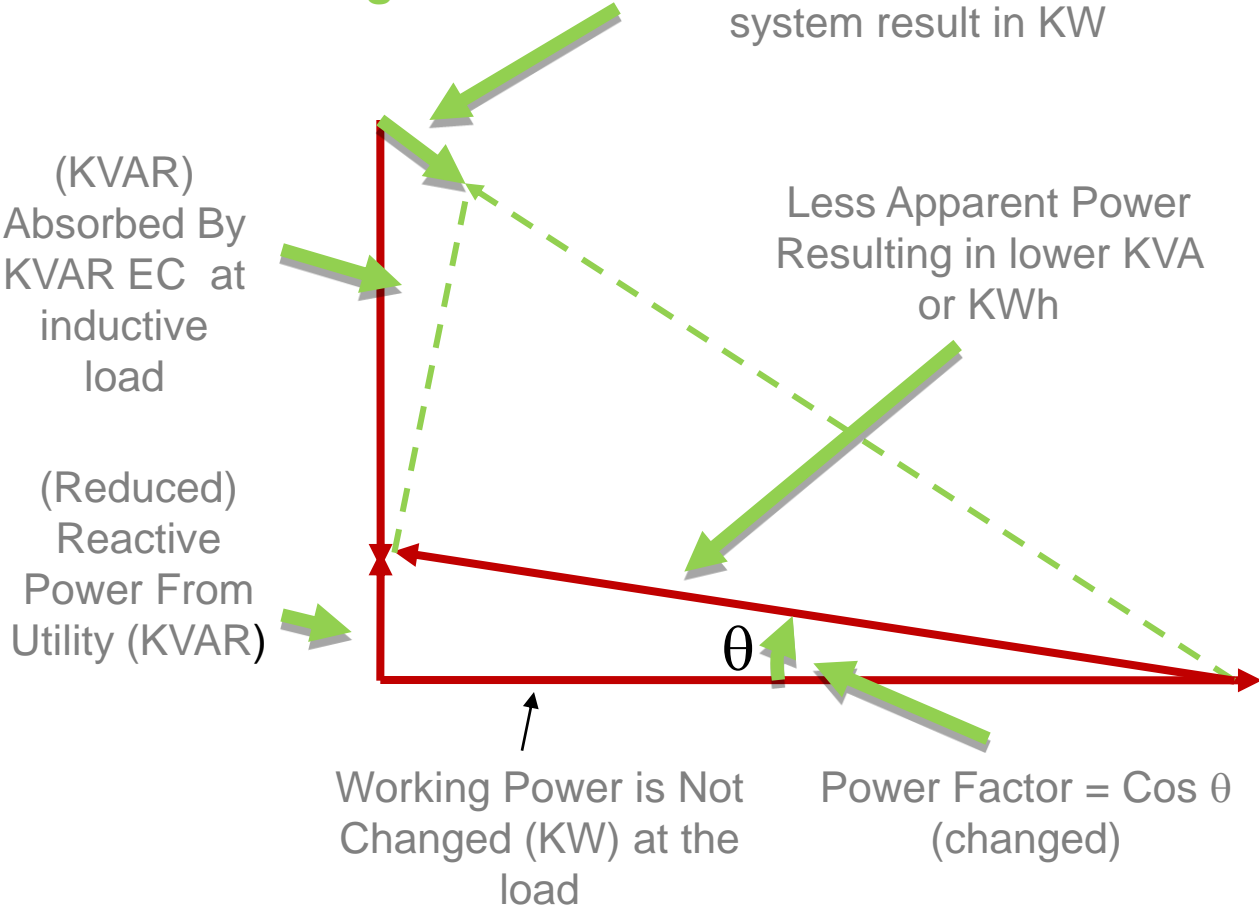
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KVAR EC at Work?

Power Triangle



You Lower The Power Bill by reducing the Amps in the system. Amps in the system result in KW



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ANY QUESTIONS

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